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CONTENTS.

EDITORIAL:

Controversy Over False Fireproofing in New York — Italian Government Responsible for Fall of the Campanile 1

THE RELATION OF LANDSCAPE GARDENING TO ARCHITECTURE 2

By Thomas Hawkes, Landscape Architect.

SHOP-MIXED COMBINATIONS 3

THE CHICAGO NATIONAL BANK BUILDING 3

By Violet Stanley Coen.

THE BUSH TEMPLE OF MUSIC 8

OUR ILLUSTRATIONS 8

INDEX TO ADVERTISEMENTS XI

"SPECIFICATION REMINDERS" XIV

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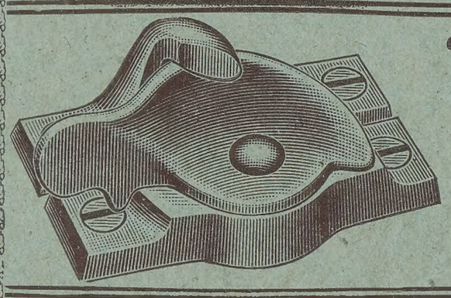

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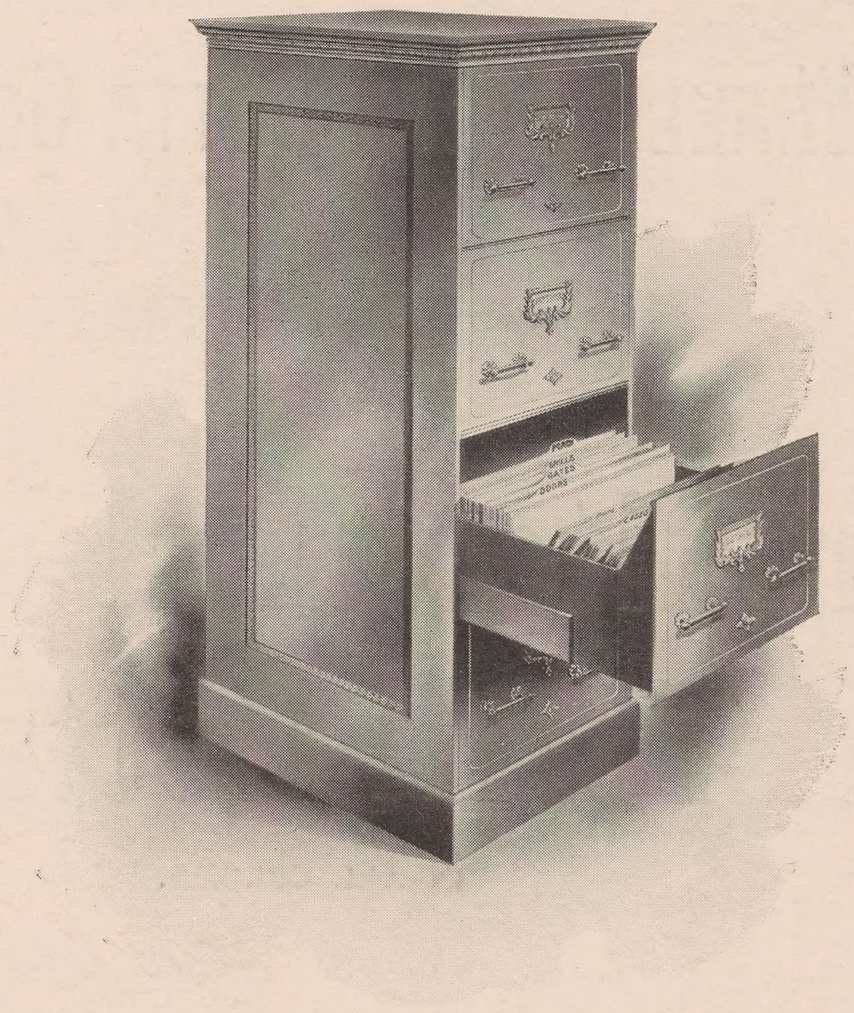

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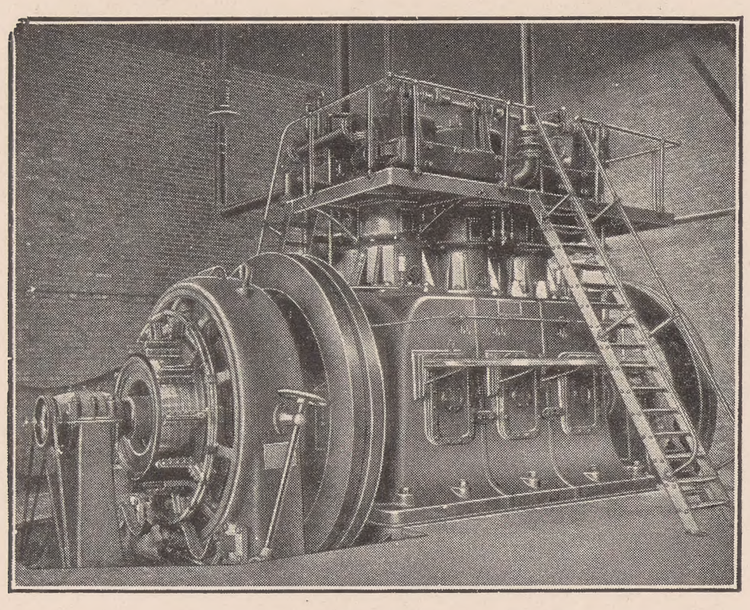

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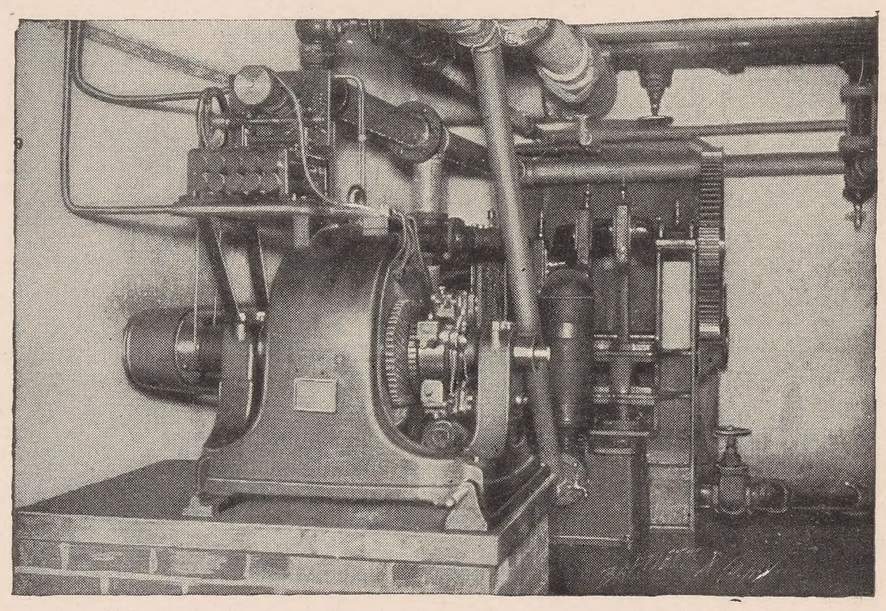

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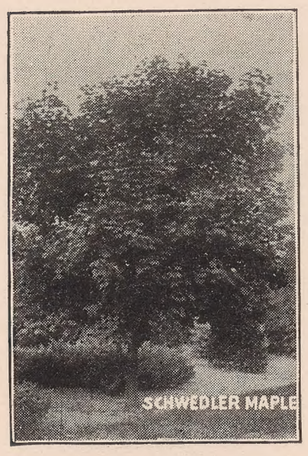

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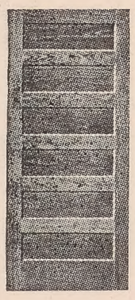

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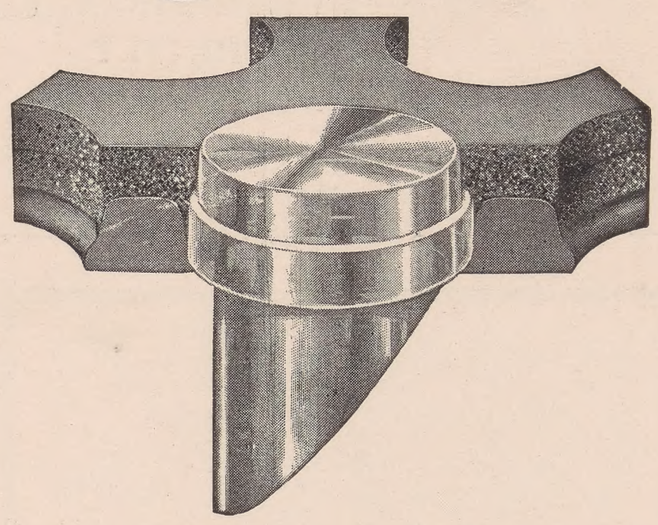

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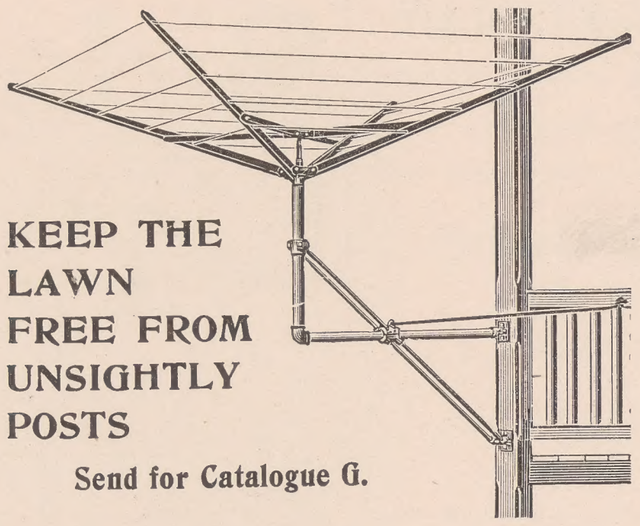

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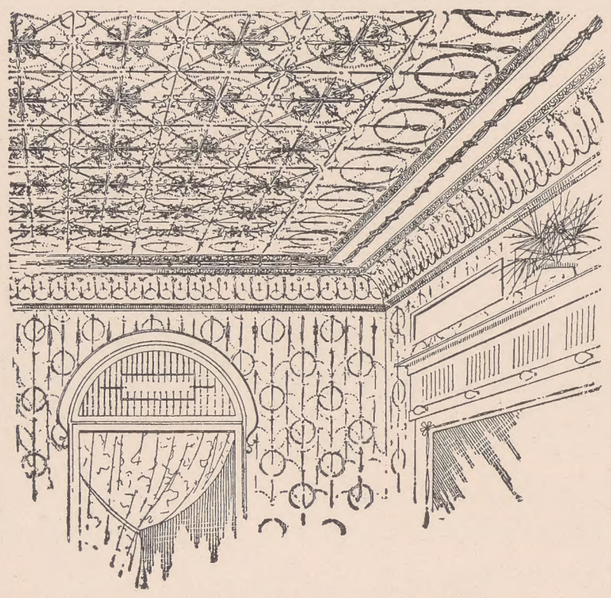

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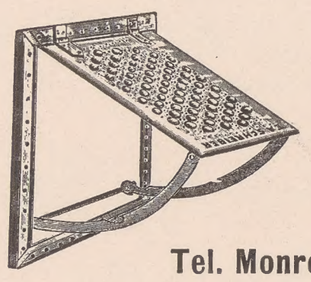

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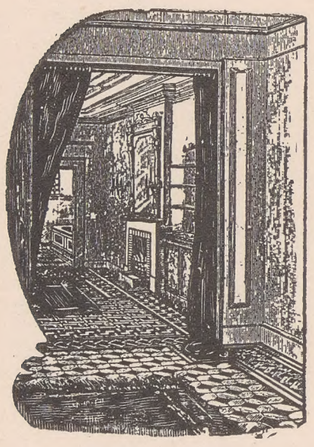

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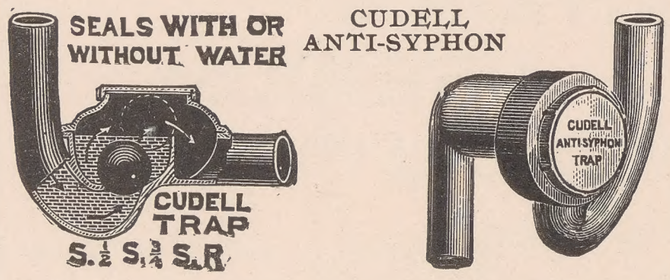

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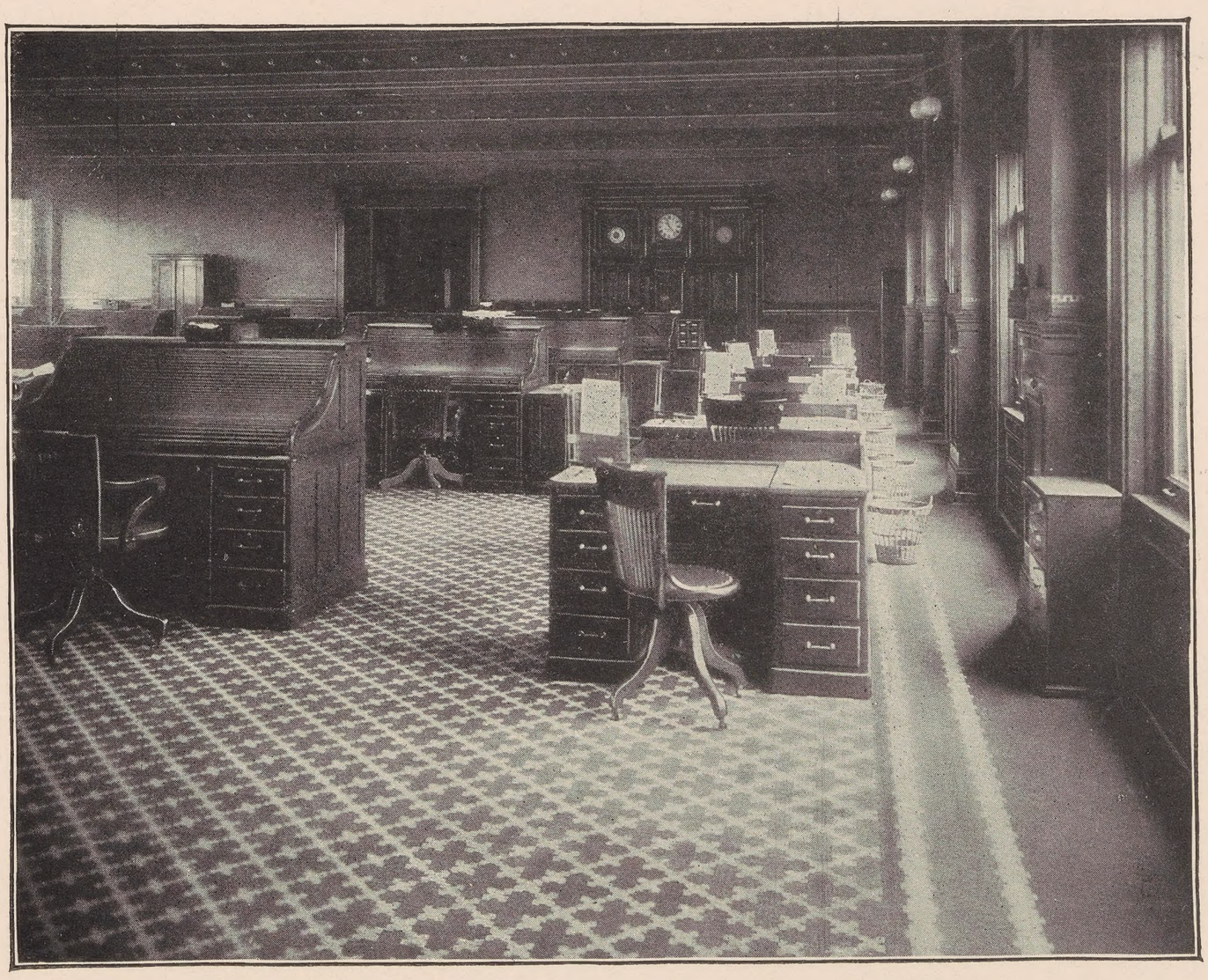

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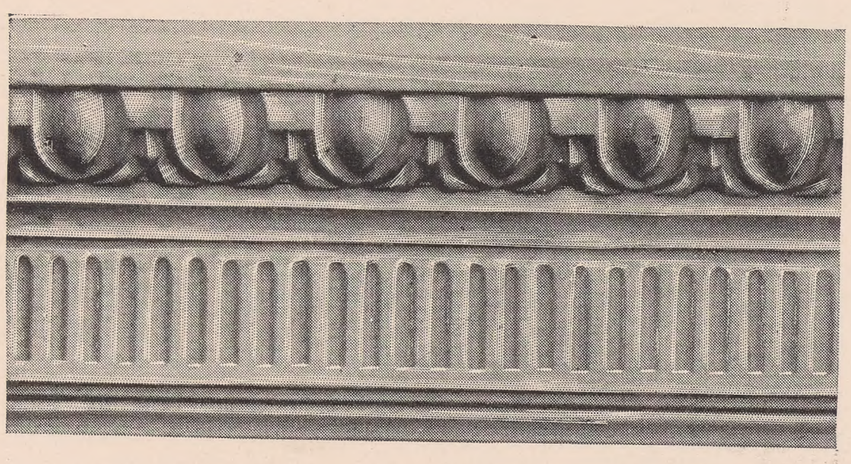

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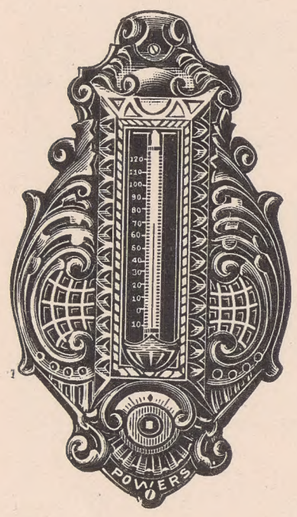

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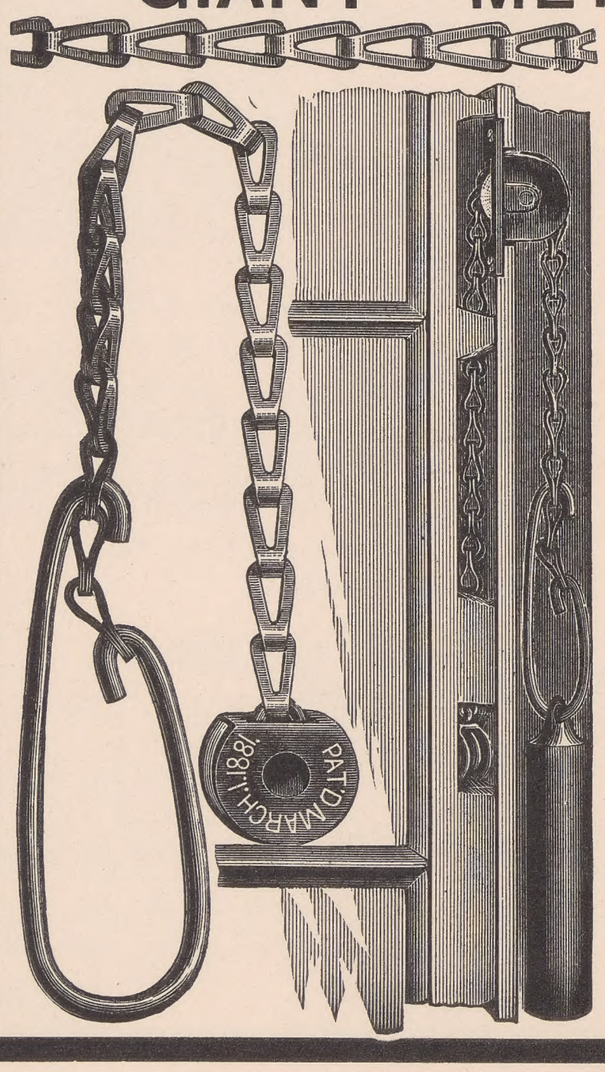

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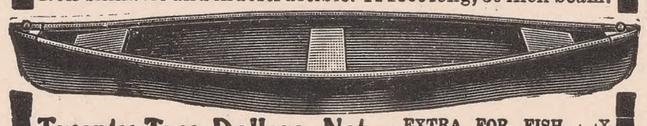

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INDEX TO ADVERTISEMENTS.

Page

Architectural Drawing.
Deane, E. Eldon XV

Architectural Iron Works.
The Winslow Bros. Co..... II
American Sidewalk Light Co. IX

Architectural Photographers.
Taylor, J. W..... II

Architectural Views.
Taylor, J. W..... II

Boats.
W. H. Mullins..... X

Boiler Covering.
The Keasbey & Mattison Co. XII

Bricks (Pressed).
Chicago Hydraulic Press Brick Co..... IX
Findlay Hydraulic Press Brick Co..... IX
Illinois Hydraulic Press Brick Co..... IX
Kansas City Hydraulic Press Brick Co..... IX
Menominee Hydraulic Press Brick Co..... IX
Omaha Hydraulic Press Brick Co..... IX
St. Louis Hydraulic Press Brick Co..... IX

Brick (Enameled).
Hydraulic Press Brick Co ... IX

Brick (Fire).
Vrooman, H. S..... IX

Brick (Ornamental).
Chicago Hydraulic Press Brick Co..... IX
Findlay Hydraulic Press Brick Co..... IX
Hydraulic Press Brick Co ... IX
Illinois Hydraulic Press Brick Co..... IX
Kansas City Hydraulic Press Brick Co..... IX
Menominee Hydraulic Press Brick Co..... IX
Omaha Hydraulic Press Brick Co..... IX

Builders' Hardware.
Orr & Lockett..... XVI
The Yale & Towne Mfg. Co. XVI

Builders' Sundries.
The Yale & Towne Mfg. Co. XVI

Building Papers.
Cabot, Samuel XII

Cements.
French, S. H., & Co VI

Clothes Dryers.
Hill Dryer Co. VI

Cordage.
Samson Cordage Works XVI

Creosote Stains.
Cabot, Samuel XII

Page

Decorators' Supplies.
Grand Rapids Carved Moulding Co..... XIII

Drawing Material and Implements.
Abbott, A. H., & Co..... XII

Electric Plants.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Elevators.
The J. W. Reedy Elevator Co VII

Elevator Supplies.
Elevator Supply & Repair Co. V

Engineers.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Fire Extinguishers.
The Yantacaw Mfg. Co..... II

Fireproof Doors.
Kinnear Mfg. Co. X

Fireproof Shutters.
Kinnear Mfg. Co..... VI

Fireproofing.
National Fireproofing Co .. XIV
Pioneer Fireproofing Co.... XIV
The Roebling Construction Co..... XII

Floor Polish.
Butcher Polish Co XV

Gas Engines.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Grilles.
Waddell Mfg. Co..... X

Hardware.
The Yale & Towne Mfg. Co. XVI

Heating.
Buffalo Forge Co..... XIII
B. F. Sturtevant Co III

Heating and Ventilating Apparatus.
Buffalo Forge Co XIII
Pierce, Butler & Pierce..... XVI
B. F. Sturtevant Co III

Ice and Refrigerating Machinery.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Interior Finish.
Battle Creek Interior Finish Co V

Locks.
The Yale & Towne Mfg. Co. XVI

Mail Chutes.
Cutler Manufacturing Co... VII

Mechanical Stokers.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Page

Metal Ceilings.
Berger Mfg. Co VI

Metallic Fixtures and Furniture.
Art Metal Construction Co . III

Monuments.
Blake, Chas. G., & Co..... XII

Mortar Colors.
French, S. H., & Co..... IX

Moldings, Mirrors, Frames.
Grand Rapids Carved Moulding Co..... X
W. W. Abbott..... IX

Paints, Oils and Varnishes.
Berry Bros III
Joseph Dixon Crucible Co.. XV
New Jersey Zinc Co V
Pitkin, Geo. W., Co..... V
Smith, Edward, & Co XVI

Pencils.
Joseph Dixon Crucible Co .. VI

Plumbers' Fittings.
Crane Co.....VI, XIV

Printers.
The H. O. Shepard Co VII

Railroads.
Big Four Route XV
Chicago & Alton..... X
Chicago & North-Western R'y X
Chicago, Milwaukee & St. Paul..... IX
Delaware, Lackawanna & Western XIV
Denver & Rio Grande R. R. XV
Grand Trunk Lines IX
Illinois Central..... V
Monon and C. H. & D. Route VIII
Missouri Pacific R'y VIII
New York Central R. R..... IV
Queen & Crescent Route.... XIV
Rio Grande & Western..... VI
Southern R'y XIV
Southern Pacific Co... V
Santa Fe Route X
Wisconsin Central..... XV

Reflectors.
Frink, I. P..... XV

Roofing Tin.
N. & G. Taylor Co III

Rolling Doors and Shutters (steel).
Kinnear Mfg Co X

Sanitary Appliances.
Cudell, F. E..... IX

Sash Cords and Chains.
Smith & Egge Mfg. Co VIII
Samson Cordage Works.... XVI

Sash Locks.
The W. & E. T. Fitch Co.... II

Schools.
Washington University..... X

Sheathing and Deadening Quilt.
Cabot, Samuel XII

Shingle Stain.
Berry Bros XIII
Cabot, Samuel XII
Dexter Bros..... XV

Page

Sidewalk and Vault Lights.
Brown Bros. Mfg. Co V
Richards & Kelly..... VII
American Sidewalk Light Co. IX

Skylights (Metal).
Van Noorden Co..... II

Snow Guards.
Folsom Snow Guard Co..... X

Spring Hinges.
Smith & Egge Mfg. Co..... X

Stained and Decorative Glass.
Louis J. Millet V

Steam Engines.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Steam Fittings.
Crane Co..... XV

Steam Loops.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Steel Rolling Doors.
Kinnear Mfg. Co VIII

Steel Rolling Shutters.
Kinnear Mfg. Co..... VIII

Steel Shutters.
American Sidewalk Light Co. IX
Kinnear Mfg. Co X

Stokers.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Stone (Artificial).
Niemann, Geo VII

Temperature Regulator.
The Powers Regulator Co... VIII

Terra Cotta.
Northwestern Terra-Cotta Works II
Winkle Terra Cotta Co IV

Tile (Enameled).
Tiffany Enameled Brick Co.

Tile (Rubber).
New York Belting & Packing Co., Ltd..... VII

Trees.
Peterson, P. S., & Son..... V

Valves (Steam).
Jenkins Bros..... X
Crane Co..... ..VII, XIV

Varnish.
Chicago Varnish Co..... X

Ventilation.
Buffalo Forge Co..... XIII

Wall Papers.
W. H. S. Lloyd Co..... IX

Window Lines.
Samson Cordage Works.... XVI

Wood Carpet.
Moore, E. B., & Co VI

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Is an Enamel Paint unlike any ever before produced. It dries with an eggshell gloss, so that only the last coat needs a slight rubbing; none of the undercoats need rubbing, and thus the great labor expense necessary with all other Enamels is eliminated.

Eggshel-White gives a beautiful finish, is pure white in color, and has wonderful durability. The strongest spirits of ammonia may be poured upon it without affecting the finish.

An entirely new Enamel which it will pay you to investigate. Send for descriptive matter and sample panel.

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The way to get the best accommodations is via the

ROCK ISLAND SYSTEM

Why? It is the only direct line to Colorado Springs and Manitou.

It it the popular route to Denver. It has the best Dining Car Service.

It has the finest equipment and most satisfactory schedule and in the

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It leaves Chicago daily at 5:45 p. m. and arrives at Denver 8:45 p. m., Colorado Springs (Manitou) 8:30 p. m.

Another inducement to use the *Rock Island* will be the round-trip rates of **$25** Chicago to Colorado and **$15** Missouri River points to Colorado, effective this summer by that line. Ask for details and free books.

"Under the Turquoise Sky" gives the most fascinating description of Colorado.

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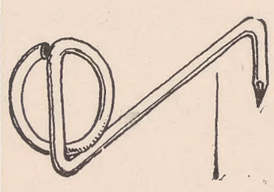
Folsom New Model Snow Guard



Specified by leading architects to hold the snow on all pitch roofs, entirely obviating all chance of injury to life or to the property it protects. The only perfect device for this purpose. It is made in various forms for old and new roofs of slate, shingle, tile or metal. Full information on application.

THREE HISTORIC BUILDINGS.
Faneuil Hall,
Old South Church,
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Boston,
Are Fitted with this Snow Guard.

FOLSOM SNOW GUARD CO.
ROSLINDALE (BOSTON), MASS.

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Original designs, beautifully carved to fit any space.
Also Carved and Embossed Mouldings, Capitals, Newel Post Tops, Rope and Twist Balusters.
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Illustrated General Catalogue No. 18. Over 1,000 designs. Mailed for ten cents in stamps.

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Chicago & North-Western Ry.

The Overland Limited
California in 3 days—every evening

The Colorado Special
One night to Denver—every morning

The Chicago-Portland Special
Oregon and Washington in 3 days—every evening

The North-Western Limited
Electric Lighted—Chicago, St. Paul and Minneapolis—every evening

Duluth and St. Paul Fast Mail
Fast train to the head of the lakes—every night

The Peninsula Express
Fast time to Marquette and Copper Country—every night

THROUGH CAR LINE between Chicago, Milwaukee, Fond du Lac, Oshkosh, Green Bay, Marinette, Menominee, Ishpeming, Ashland, Duluth, St. Paul, Minneapolis, Madison, Winona, La Crosse, Huron, Pierre, Oakes, Clinton, Cedar Rapids, Marshalltown, Des Moines, Sioux City, Omaha, Denver, Cheyenne, Ogden, Salt Lake, Portland, San Francisco and Los Angeles.

Ticket Offices, 212 Clark Street and Wells Street Station, Chicago.

SITUATION WANTED.

A quiet young lady who has finished a technical course in mechanical drawing and is experienced in designing, would like to work in an architect's office in Chicago.

Address "A. B.,"
Office of Inland Architect.

THE INLAND ARCHITECT AND NEWS RECORD

Vol. XL. ADVERTISERS' TRADE SUPPLEMENT. No. 1

THE FAST TRAINS TO CHICAGO.

NEW YORK CENTRAL'S EXPRESS SERVICE ADDED TO.

George H. Daniels, general passenger agent of the New York Central Road, talking yesterday of the company's fast train service, said that, in addition to the new twenty-hour train, there are now four twenty-four-hour trains to Chicago, and two Empire State expresses daily.

The Twentieth Century Limited, twenty-hour train, leaves New York every day at 2:45 P.M., and arrives at Chicago the next morning at 9:45. The Lake Shore Limited leaves New York at 5:30 every afternoon, arriving in Chicago the next afternoon at 4:30. The Fast Mail, a fine twenty-four-hour train, leaves New York at 8:45 A.M. every day, reaching Chicago the next morning at 7:50, by both the Lake Shore and the Michigan Central. The noonday Chicago Limited leaves New York at 1 P.M., reaching Chicago by the Lake Shore the next morning at 11:50, a twenty-four-hour train, really twenty-three hours and fifty minutes. The Detroit and Chicago Limited leaves New York at 4 P.M., reaching Chicago the next afternoon, a fourth twenty-four-hour train. —*From the New York Times.*

NOTE.—The New York Central also has fifteen trains a day between New York and Buffalo and Niagara Falls; five trains a day between New York and St. Louis and Cincinnati; four trains a day between New York and Montreal, and by its Boston & Albany Division four trains a day between New York and Boston, via Springfield.

A LITTLE OFF THE TOP.

ATTIC WISDOM AT FIRST HANDS FOR HOUSE OWNERS, HOUSE RENTERS, HOUSE BUILDERS AND HOUSE DESIGNERS.

We have just received a book overrunning with practical suggestions about houses — particularly about roofs and all kinds of roofing — rich in interesting historical matter and artistic illustration. Its title is "A Fifty Year Roof."

This book is issued by the American Tin Plate Company for general distribution. It treats incidentally of M F Roofing Tin, the Norristown New Method ternes and U. S. Eagle ternes; but the greater part of its forty-eight pages is devoted to technical information that every housebuilder, designer, owner or renter should have at hand at all times. One chapter, "How to Construct a Tin Roof," contains many suggestions of inestimable value, and many facts familiar only to experienced builders. Following this are nearly fifty accurate tables and formulas of sizes, weights, gauges and measurements, needful in housebuilding and repairing.

The cover of this book is very artistic in beautiful colorings and very novel in arrangement, part of the design being an actual sheet of the famous M F tin, showing the trade-mark as it is stamped on the genuine.

Anybody that lives in a house or helps to make houses would be benefited by reading "A Fifty Year Roof," and may have a copy free by sending address to W. C. Cronemeyer, agent, American Tin Plate Company, 1211 Carnegie building, Pittsburg, Pennsylvania.

INDUSTRIAL NOTE.

Westinghouse, Church, Kerr & Co. are pleased to announce the removal of their Pittsburg office from its former location on the first floor of the Westinghouse building to more commodious quarters on the eighth floor of the same building. This change is the direct outcome of largely increased business in this district, and is accompanied by the acquirement of a commodious reception room, devoted exclusively to the convenience and entertainment of visitors and patrons.

The object of the management in making the change is to be able to accommodate more thoroughly and promptly the wishes and needs of their patrons. They are prepared to give immediate attention to all classes of general engineering and construction work as applied to power and its uses in transportation and industry. They will provide in all cases from their engineering force adequate personal supervision of work in hand, both during construction and subsequent thereto, and the increased facilities afforded by their new quarters will enable them to fulfil the most extensive contracts.

The official address is: Westinghouse, Church, Kerr & Co., Westinghouse building, Pittsburg, Pennsylvania.

SUMMER TRIP SPECIFICATIONS.

By way of giving to the public accurate and valuable information in regard to the best methods as well as suggestions for vacation routes, General Passenger Agent O. W. Ruggles, of the Michigan Central Railroad, has issued a comprehensive folder of seventy pages illustrative and descriptive of the numerous delightful summer vacation trips which may be enjoyed over "The Niagara Falls Route" and its connecting lines. In addition to being an exceedingly artistic production, this folder is gotten up in a very practical way and so arranged as to make it of the greatest possible use and service to those who are planning vacation tours but have not yet decided where or how they will go.

The various tours are numbered, as for instance: Tour No. 6, which comprises a single trip from Chicago to New York via Niagara Falls, St. Lawrence river, White Mountains and Boston. The traveler takes the Michigan Central in Chicago, going thence to Buffalo and Niagara Falls, and by the New York Central to Clayton, steamer to Alexandria Bay, another steamer to Montreal, Maine Central to Portland, Boston & Maine to Boston, Fall River Line to New York. The entire cost of the trip is put down at $33.70, and a complete itinerary is given, showing the tourist when he should leave Chicago and making up, for his perusal, a complete time-table of the entire trip.

This folder carefully elucidates forty distinct summer tours, every one of which has list of railways and steamships, complete itinerary and net cost of journey.

In addition to the comprehensive and detailed information above mentioned, this folder of the Michigan Central, copies of which may be obtained in Chicago at the city ticket office of the Michigan Central, and at the offices of railways in the principal cities of the United States, contains well-written and attractively illustrated articles on Niagara Falls, the St. Lawrence river, Adirondack Mountains, Central New York (including Saratoga and other resorts), the Hudson river, the White Mountains and the New England coast.

INTERIOR DECORATORS.

Among the prominent interior decorators of the West that of J. F. Sturdy ranks with the foremost. On January 1, 1902, Mr. Sturdy succeeded to the business of the old house of Crossman & Sturdy, one of the most successful concerns in the United States. Mr. Abner Crossman, who has lately retired from this business, still remains, under a special arrangement with the new house.

Mr. Sturdy has been connected with the interior decorating business some twenty-seven years. He was first employed in Chicago under Fred Atwood, about 1879. Soon after this, we find Mr. Sturdy on the Pacific Coast, making for himself an enviable reputation as an artist. He returned to Chicago in 1885, when he became associated with Mr. Crossman.

Mr. Sturdy's career in Chicago since that time has been a steady climb to the success which he has now attained and for which he should be congratulated. Mr. Sturdy lately returned from one of his many trips abroad, taken for study and the enlargement of the artistic force of the business.

Among the important works which Mr. Sturdy has been commissioned to perform, now in progress and lately finished, we would mention the Illinois Trust & Savings Bank, of Chicago; the Memorial Church, of Loretto, Pennsylvania, built by Mr. C. M. Schwab, the president of the United States Steel Corporation; the banking-rooms of the Union Trust Company, the Safe Deposit Company and the Colonial Trust Company; also the Pittsburg & Lake Erie Railroad waiting-room; the entire first floor and principal rooms of the Union Station, built by the Pennsylvania Railroad Company; also the Brokers' Exchanges, the Banking-room, the elaborately decorated Rathskeller and the Clubrooms on the terrace floor of the Fricks building, all of Pittsburg; the new courthouse of the county, Washington, Pennsylvania, and a number of the most artistic and elaborate private residences throughout the country.

As to the general status of the decorating business of the present, Mr. Sturdy reports that as far as his experience goes he never has seen it in better shape. It is no longer a question of securing business, but rather of getting efficient help to fulfil commissions now undertaken.

TRADE NOTES.

THE American Hardware Corporation, of New Britain, Connecticut, announce the election of A. N. Abbe, of New Britain, as purchasing agent.

SAMUEL CABOT, Boston, has issued a new pamphlet entitled "More School Houses," showing over twenty new and important school buildings that have been deadened with his Deafening Quilt since the publication of the preceding edition. Quilt is now generally accepted as the standard deafener in all parts of the country.

IN the rebuilding of the Royal Warehouses in Antwerp, Belgium, the Belgian Government has awarded to the Kinnear Manufacturing Company, Columbus, Ohio, the contract for 422 "Kinnear" steel rolling doors. As this group of warehouses is considered one of the finest in Europe, the award to an American firm may be considered another instance of the progress of American standards.

AMONG the recent contracts awarded to the Buffalo Forge Company, of Buffalo, New York, is one of particular interest, that of the Continental Coal Company, of Glouster, Ohio. They have ordered three 250-inch fans installed in their mines, for the purpose of ventilating and exhausting fumes, smoke and all dangerous gases constantly met with in coal mining. The fans are 250 inches, housing of the three-quarter type and of the special width of 72 inches. The sides are built of extra heavy steel plate, and are thoroughly braced with angle irons of ample size, effectually preventing all vibration. The blast wheels of these fans are of the usual centrifugal type. The radial blades or vanes with backwardly curved tips are supported by two spiders of wrought-iron tees, springing from cast-iron hubs, and are further stiffened by the conical side plates. The fan shaft is supported independent of the housing by two standard Buffalo self-aligning, chain-oiling outboard bearings mounted on masonry pedestals. This plant is similar in many respects to that of the Modoc Coal Mining Company, located at the same place and recently installed by this company.

A PERFECT DEAFENER

Prevents the transmission of sound through walls and floors by breaking up and absorbing the sound waves. The only deafener that does this.

A SCIENTIFIC INSULATOR

Carries innumerable minute dead-air spaces, giving highest insulating power. Warmer than back plaster, or six layers of rosin paper, and costs less than 1 cent a foot. Decay, moth and vermin proof, and uninflammable.

Samples, and Brochure on Schoolhouse Acoustics,
Illustrated by Twenty Plates, sent on request.

SAMUEL CABOT, Sole Manufacturer,

70 Kilby St., BOSTON, MASS. **28 Dearborn Ave., CHICAGO, ILL.**

BEWARE OF COWHAIR IMITATIONS.

The Roebling System of Fire-Proof Construction.

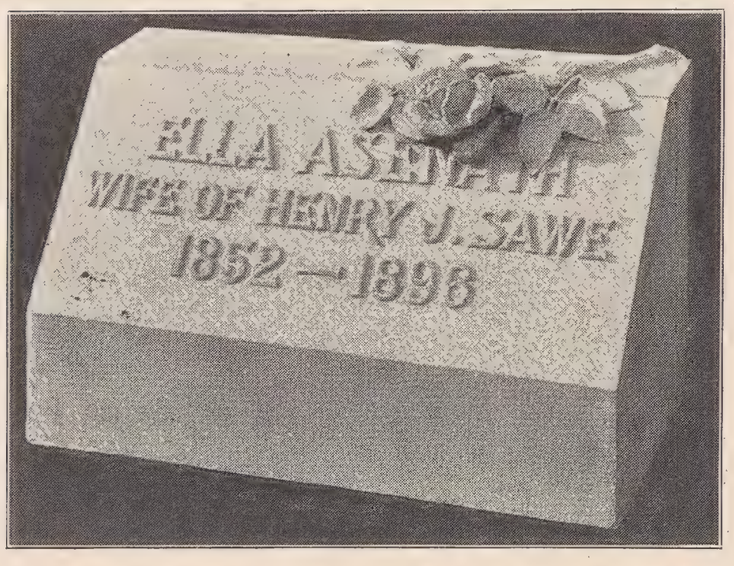
HIGHEST EFFICIENCY IN THE FIRE AND WATER TESTS OF THE NEW YORK BUILDING DEPARTMENT, AND NOW THE RECOGNIZED STANDARD OF FIRE-PROOF CONSTRUCTION.

THE ROEBLING CONSTRUCTION CO.,

121 Liberty Street, NEW YORK CITY. *171 Lake Street, CHICAGO, ILL.*

SEND FOR CATALOGUE.

Notice the Relief and Spirit of the Spray of Roses



This is not Bedford stone carving but Granite carving made at our works in Chicago by the aid of the Pneumatic hammer.

Finer Granite carving was never done than we are doing to-day. Granite carving need no longer be crude and unrelieved.

Do not forget us when you have anything in GRANITE from a door-sill to the most exquisite carving.

CHAS. G. BLAKE & CO.

784 Woman's Temple, CHICAGO

Monuments, Mausoleums and Building Granite

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MAGNESIA Steam Pipe Coverings

HEAVY DAMAGES

TO BE COLLECTED AGAINST ALL INFRINGERS

IN THE SUITS against the

Philip Carey Manufacturing Company
American Magnesia Company
American Magnesia Covering Company
Schoellkopf, Hartford & Hanna Co.

The Court has required the defendants to make answer to our bill.

THEIR DEMURRER OVERRULED

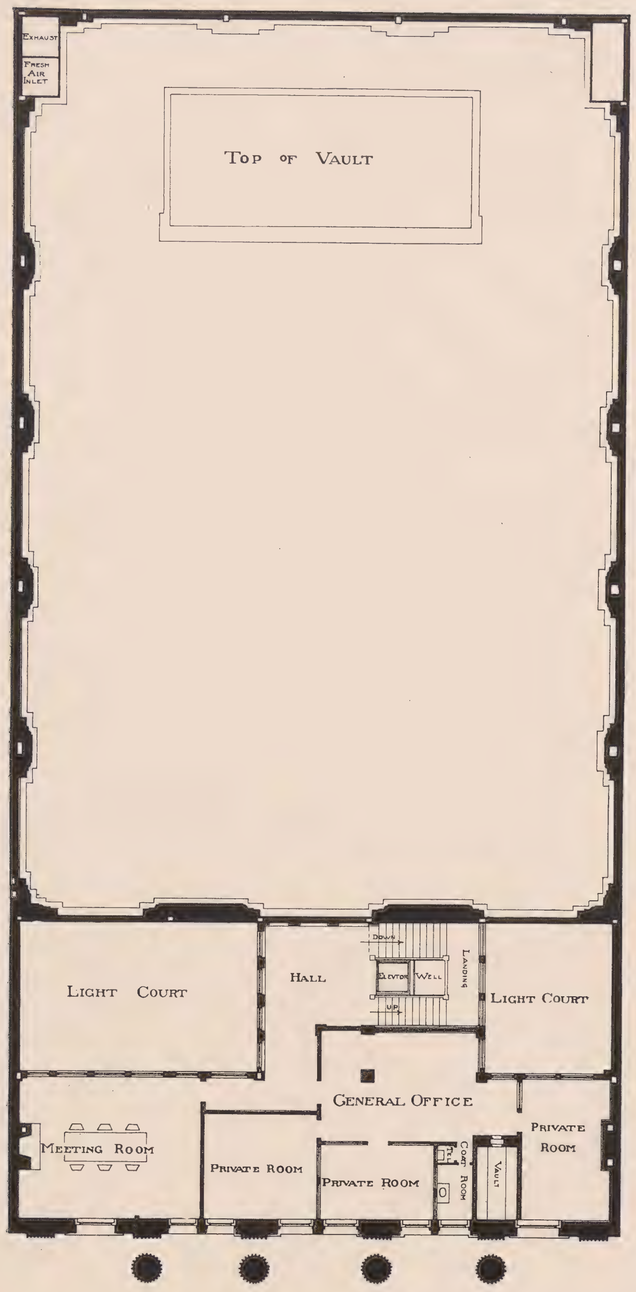
Suit has been entered against the C. W. Trainer Manufacturing Co., of Boston.

All persons are warned not to engage in any piracy of our patents, as suits will promptly follow against all Infringers.

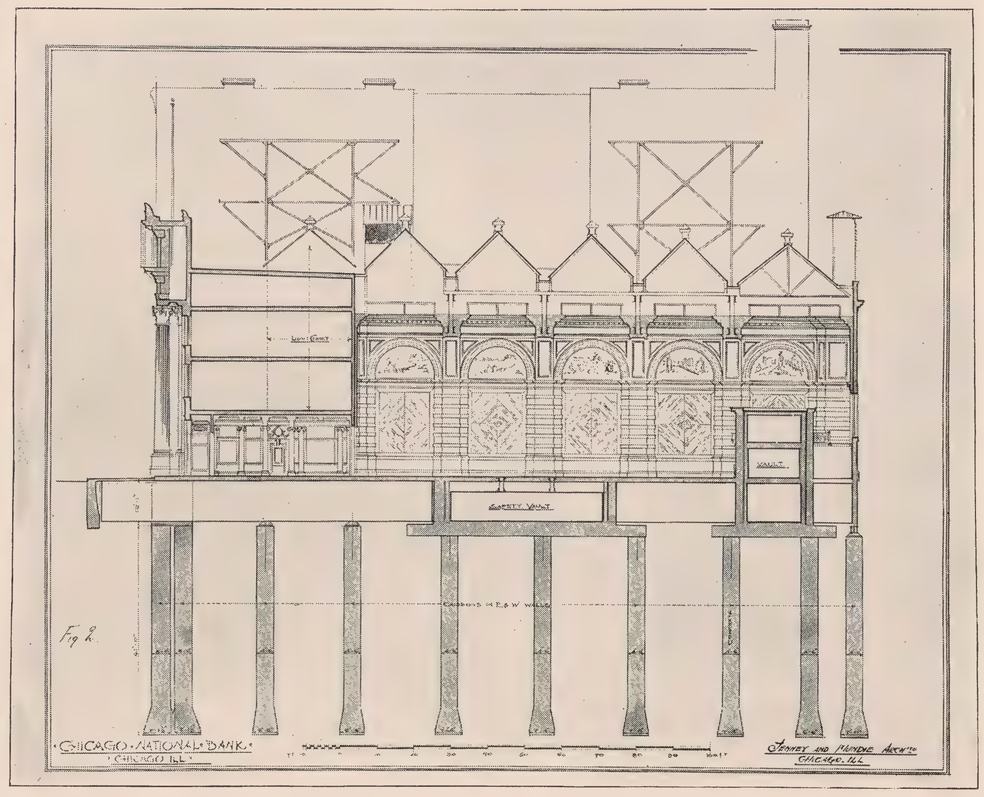
Keasbey & Mattison Company

AMBLER, PENN.

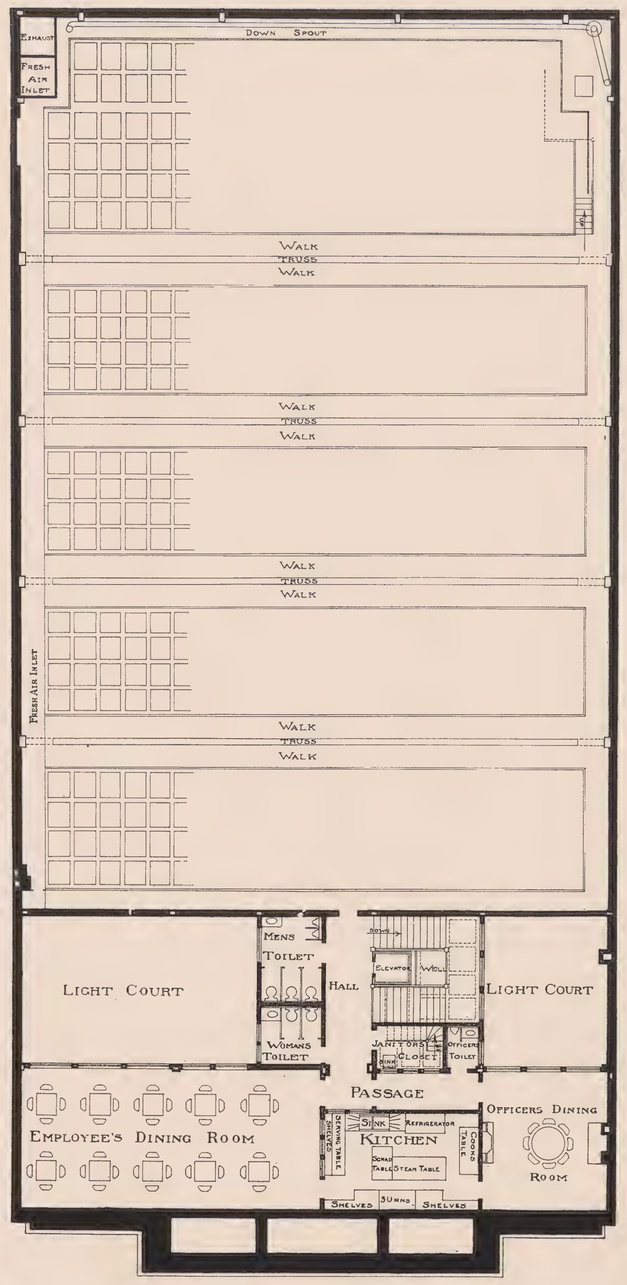
Please mention THE INLAND ARCHITECT when corresponding with Advertisers.



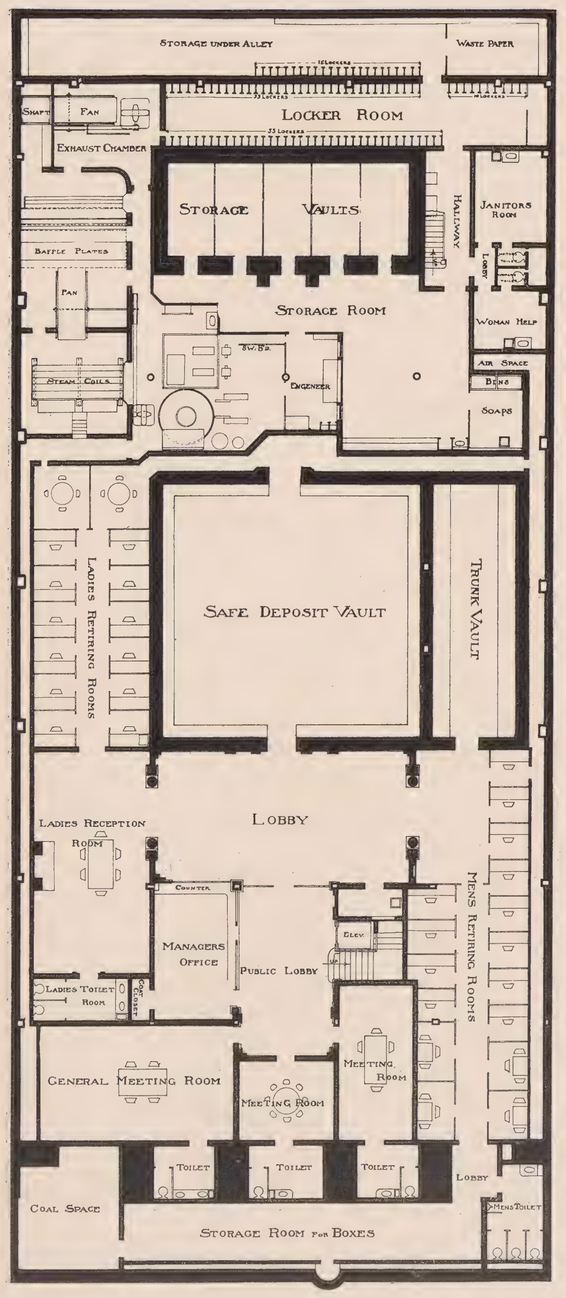
THIRD FLOOR PLAN.



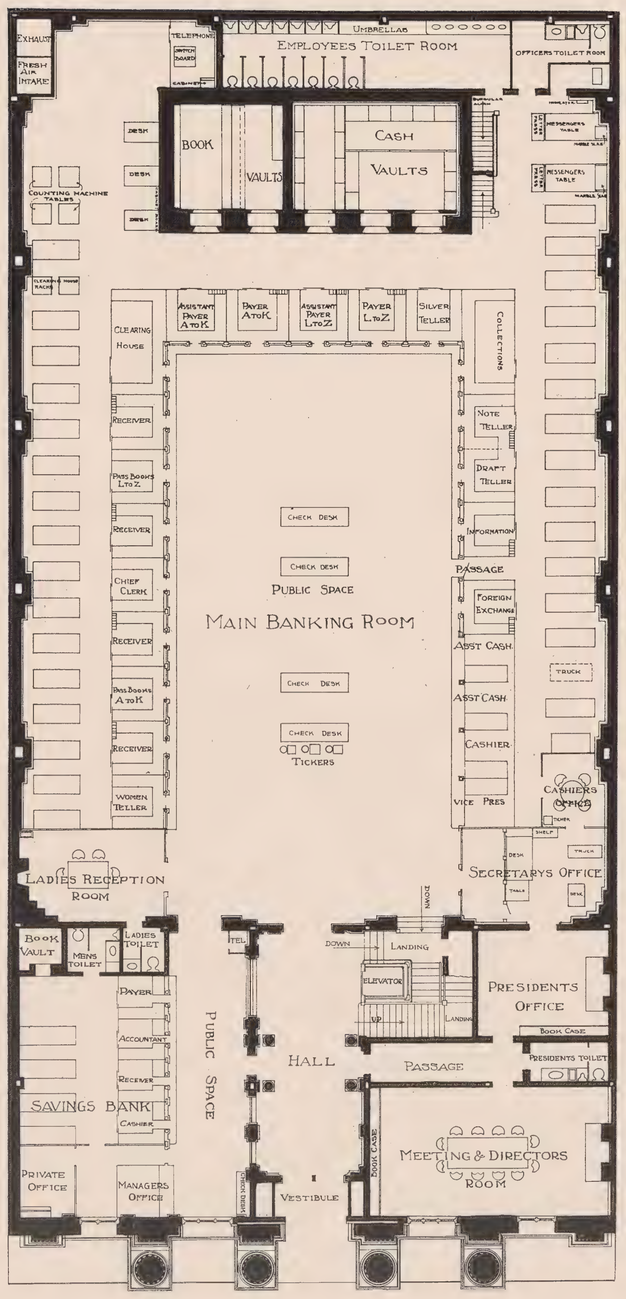
SECTION, SHOWING CONSTRUCTION.



FOURTH FLOOR PLAN.



BASEMENT PLAN.



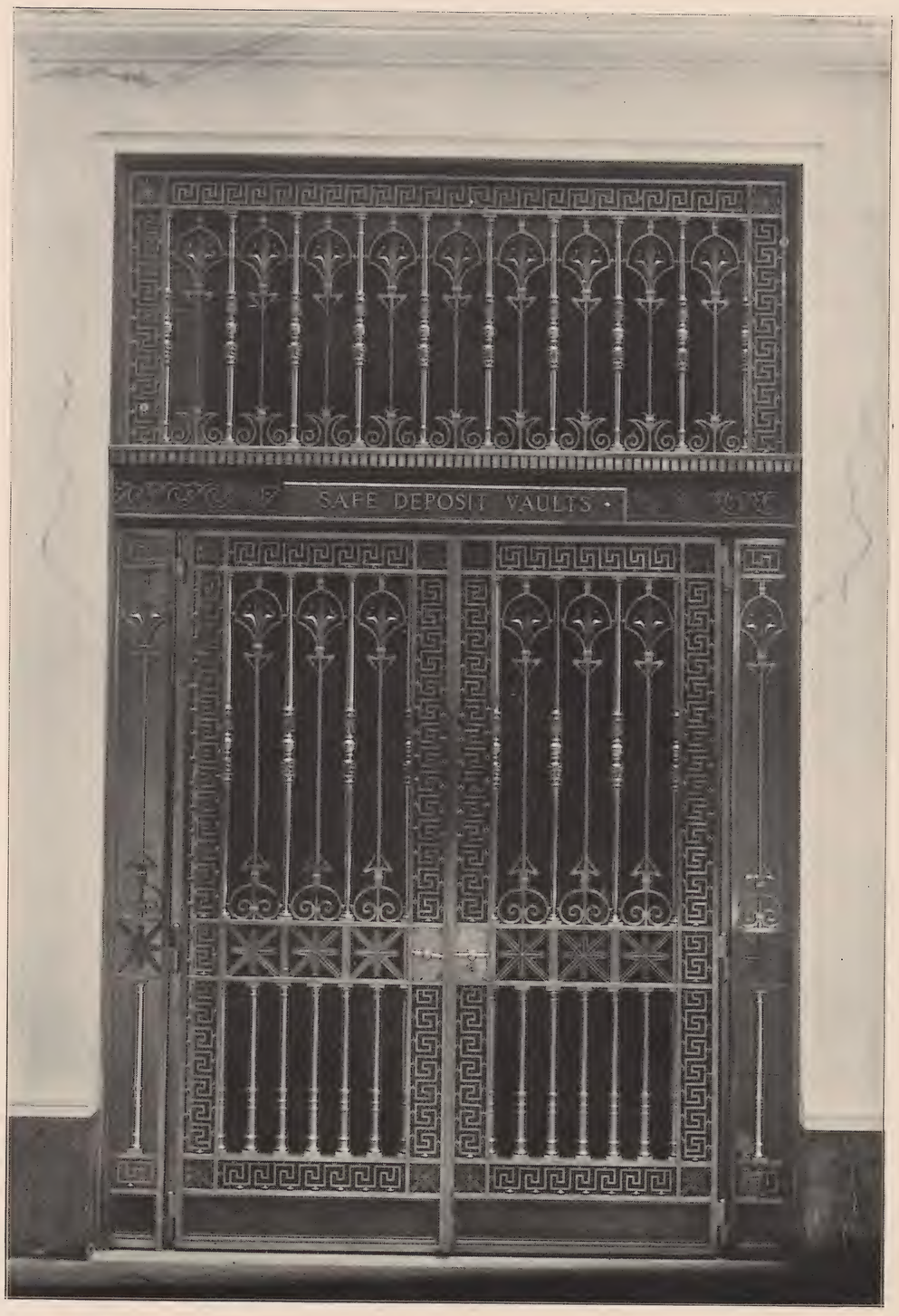
FIRST FLOOR PLAN.

SECOND FLOOR PLAN.

THE CHICAGO NATIONAL BANK BUILDING, CHICAGO.

JENNEY & MUNDIE, ARCHITECTS.

DETAIL OF SOLID BRONZE COUNTER SCREENS IN LARGE BANKING-ROOM.



ONE OF THE GRILLE DOORS LEADING TO SAFE DEPOSIT VAULTS AND HOME SAVINGS BANK FROM MAIN BANKING-ROOM.

THE CHICAGO NATIONAL BANK BUILDING, CHICAGO.

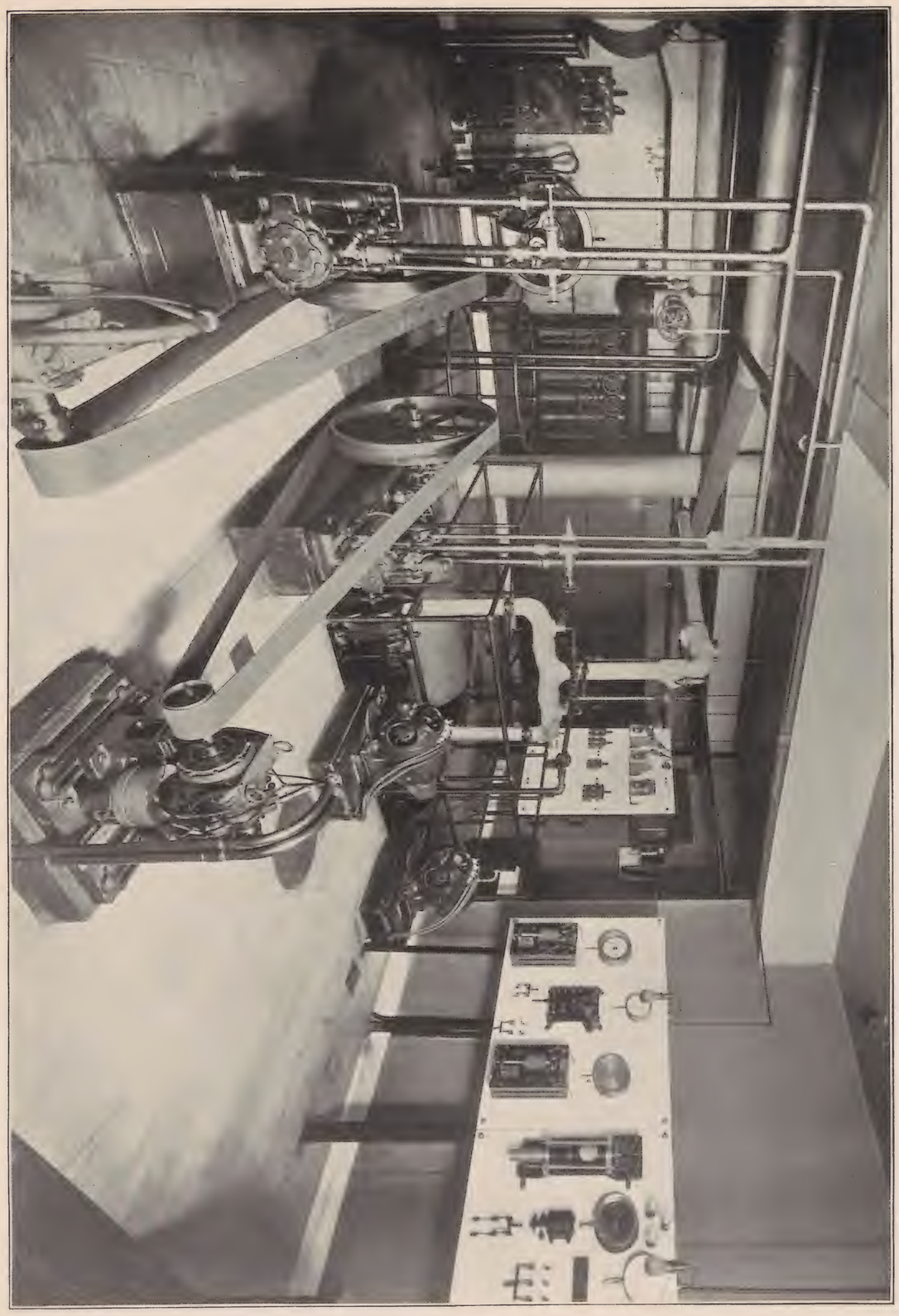
JENNEY & MUNDIE, ARCHITECTS.

GENERAL VIEW OF THE GREAT BANKING-ROOM OF THE CHICAGO NATIONAL BANK, CHICAGO.

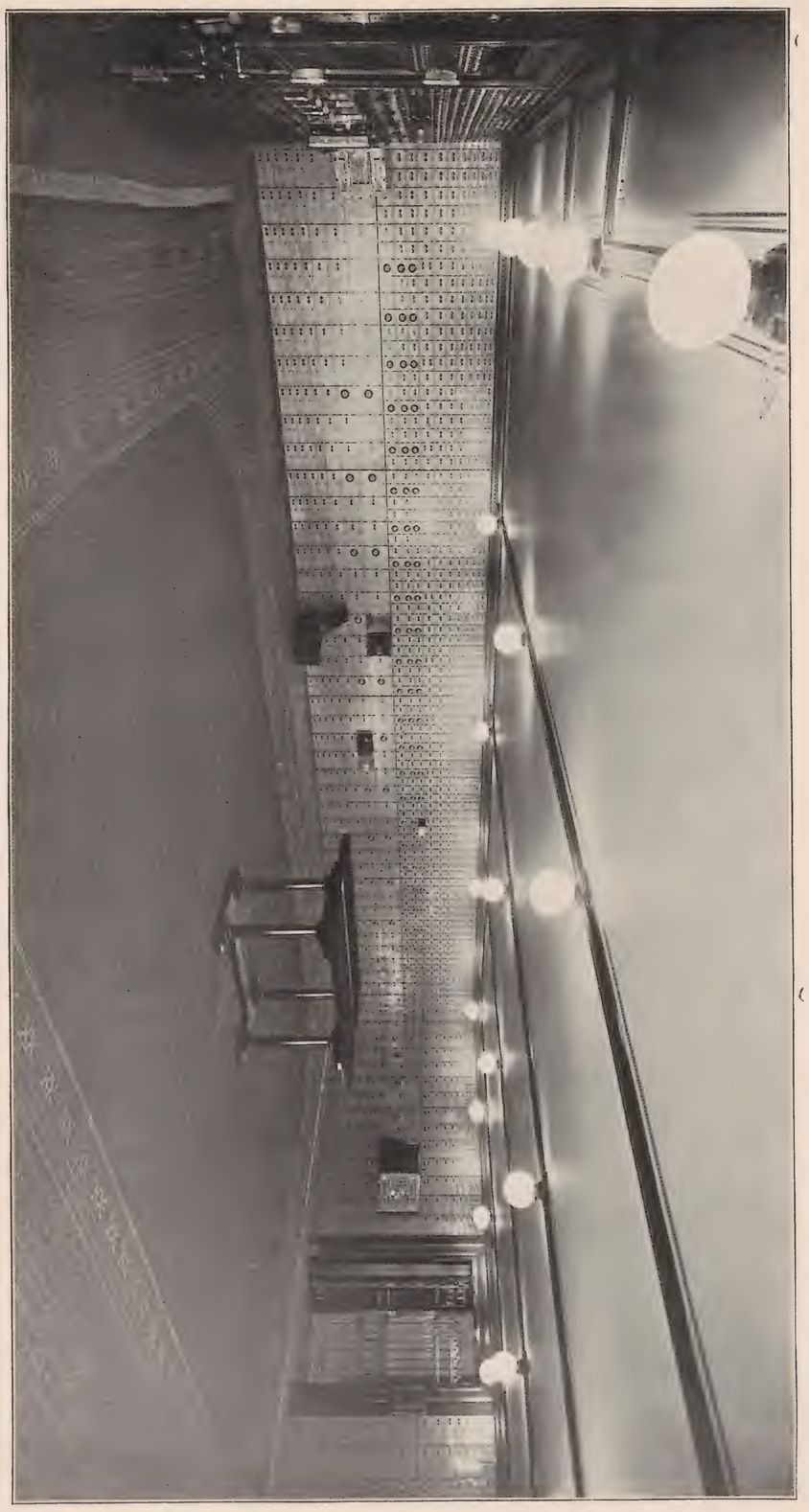
JENNEY & MUNDIE, ARCHITECTS.

THE GREAT BRONZE ENTRANCE DOORS.

THE DORIC MANTEL IN THE DIRECTORS' ROOM, OF BOG-OAK, AND BORDER OF GEORGIA GREEN MARBLE.



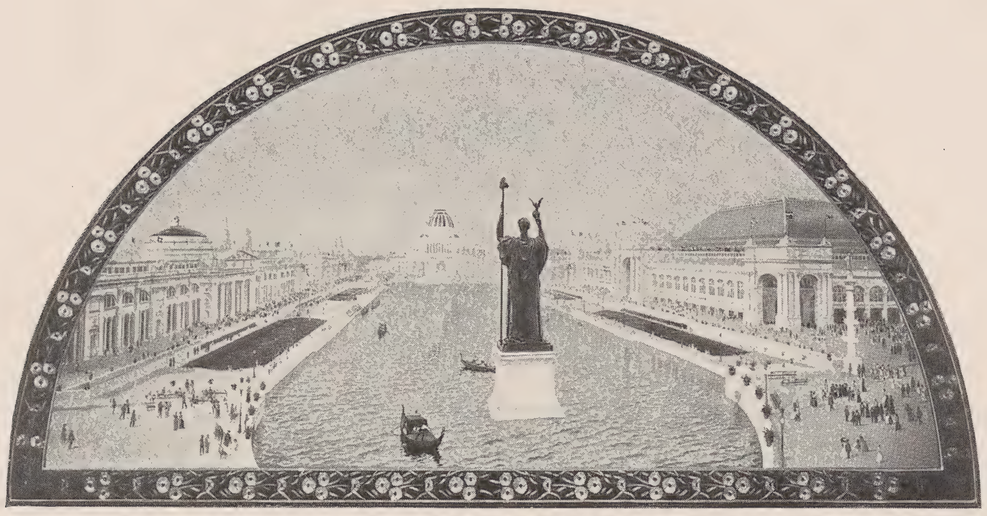
VIEW SHOWING ELECTRIC MOTORS AND MACHINERY ROOM.



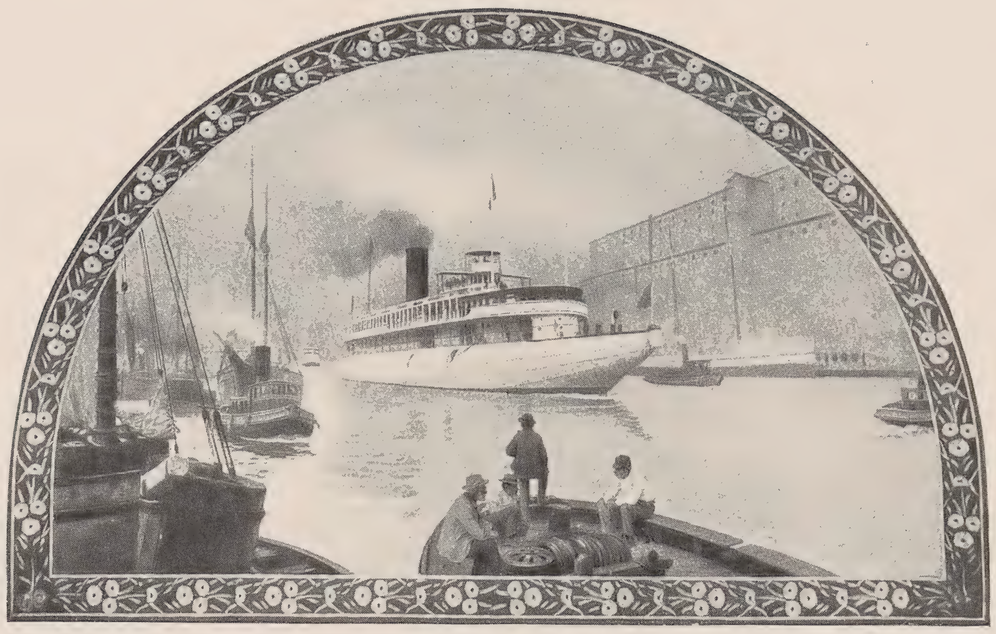
INTERIOR VIEW OF PUBLIC SAFE DEPOSIT VAULTS, 6,000 BOXES.

THE CHICAGO NATIONAL BANK, CHICAGO.

JENNEY & MUNDIE, ARCHITECTS.

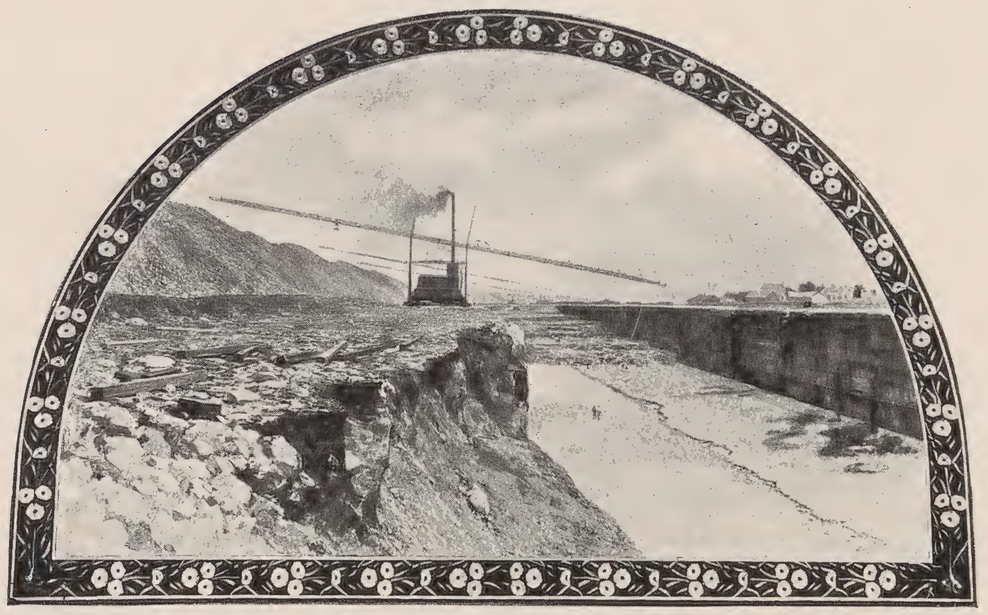


THE WORLD'S COLUMBIAN EXPOSITION, 1893.



CHICAGO RIVER AT LAKE STREET BRIDGE, 1900.

THE OGDEN RESIDENCE, AFTER THE FIRE OF 1871.



THE ROCK CUT IN THE DRAINAGE CANAL, 1899.

THE ILLINOIS CENTRAL RAILROAD STATION, 1856.

CLARK STREET, BETWEEN LAKE AND RANDOLPH, 1857.

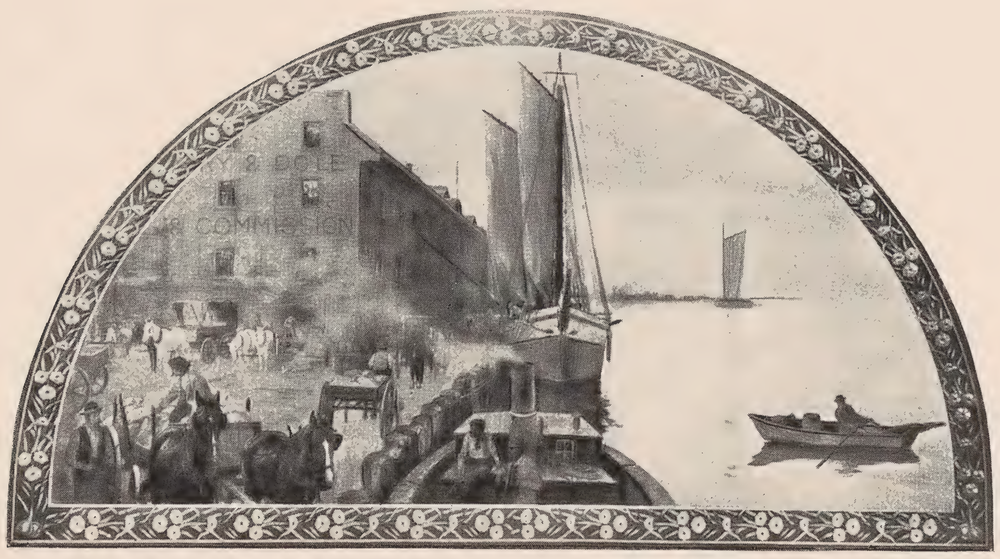
CHICAGO OFFICE OF FRINK & WALKER'S STAGE LINES, 1850.

THE FIRST RAILWAY STATION IN CHICAGO, 1849.

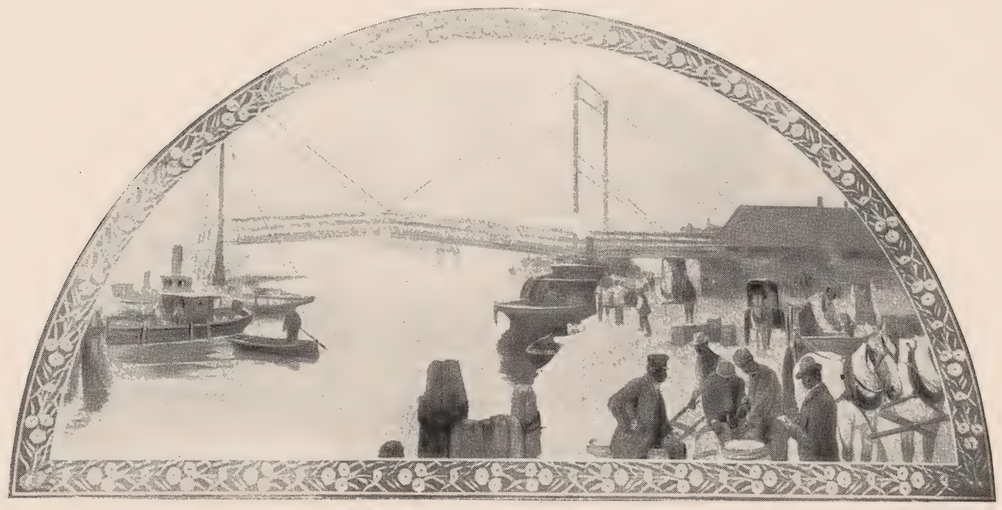
HISTORICAL CHICAGO AS DEPICTED IN MURAL PAINTINGS, MAIN BANKING-ROOM, EXECUTED BY LAWRENCE C. EARLE.
THE CHICAGO NATIONAL BANK BUILDING, CHICAGO.
JENNEY & MUNDIE, ARCHITECTS.

THE LAST COUNCIL OF THE POTTAWATOMIES, 1833.

THE GREAT FLOOD IN THE CHICAGO RIVER, 1849.



THE FIRST GRAIN ELEVATOR IN CHICAGO, 1838.



THE FIRST BRIDGE ACROSS CHICAGO RIVER, 1834.

THE KINZIE HOUSE, NEAR FORT DEARBORN, 1804.

THE CHICAGO RIVER, NEAR WOLF POINT, 1833.

THE WINTER QUARTERS OF FATHER MARQUETTE, 1674.

THE FIRST FORT DEARBORN, BUILT IN 1803.

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MARBLE ENTRANCE TO EQUITABLE TRUST COMPANY. SECOND FLOOR.

ONE OF THE TWELVE PANELS OF PAVANAZZO MARBLE.

Entrance to Home Savings Bank at left.

Entrance to President's and Directors' Room at right.

GRAND MARBLE AND BRONZE ENTRANCE TO GREAT BANKING-ROOM.

THE CHICAGO NATIONAL BANK BUILDING, CHICAGO.

JENNEY & MUNDIE, ARCHITECTS.

VIEW OF PROSCENIUM ARCH.

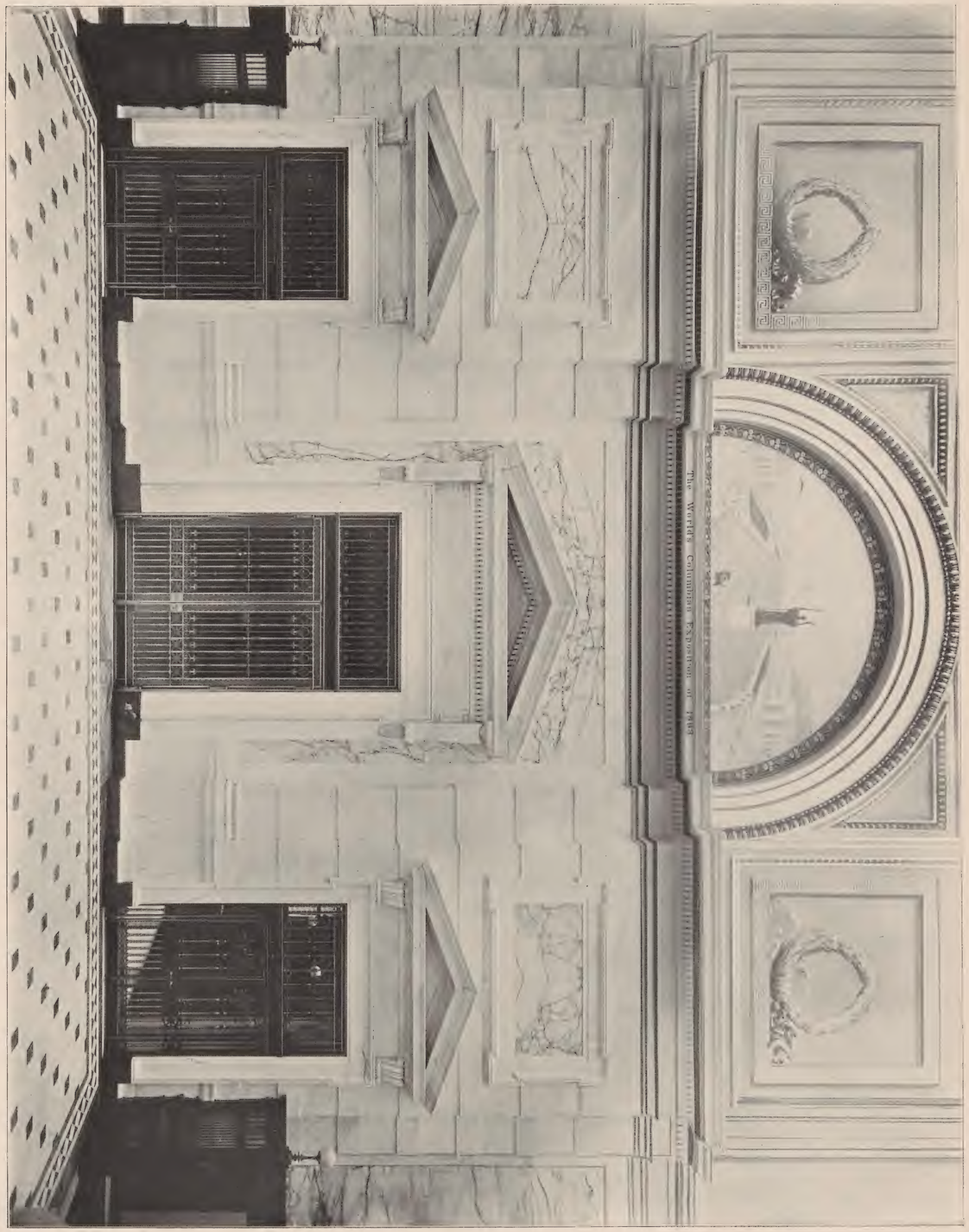
ENTRANCE DETAIL, EXECUTED IN TERRA-COTTA.

THE BUSH TEMPLE OF MUSIC, CHICAGO.

JOHN E. O. PRIDMORE, ARCHITECT.

FACADE, CHICAGO NATIONAL BANK BUILDING, CHICAGO.

JENNEY & MUNDIE, ARCHITECTS.



EXIT FROM BANKING-ROOM. ENTRANCE TO SAFE DEPOSIT VAULTS.

VIEW OF THE NORTH END OF GREAT BANKING-ROOM, CHICAGO NATIONAL BANK.

ENTRANCE TO HOME SAVINGS BANK.

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Controversy Over False Fireproofing in New York.

New York building circles seem to be very much excited over a controversy regarding the relative merits of chemically treated wood and metal, or metal-covered wood for trimming, and the aldermen are asked to incorporate some provision for the use of one or both in the trim of fireproofed structures. As far as such an ordinance is concerned, it goes to the side that can present the most substantial argument, for the alderman knows little and cares less about it. The people want fireproofed structures that are stable in construction. The people should be taught that no material is absolutely beyond the effect of fire and water, but that there are materials that successfully resist its ordinary attack and protect the structure and that these only can in any sense be called fireproof and that it is criminal for any one with supposed authority to give the term "fireproof" to any that is simply "slow burning" or "fire resisting" in its quality. It is no hardship upon property owners for the most rigid laws to be enforced in regard to the thorough protection of the structural parts of a building from fire, but the trim of a room should be left to the advice of the architect and the good sense of the owner, for in a fireproofed building fire can not spread so as to be destructive outside of its immediate locality. There are too many laws and too lax enforcement of them, but all architects and many of the investing public know what materials only are practically fireproof, and law should aid common sense in demanding their use in any considerable structure.

Italian Goverment Responsible for Campanile Fall.

The fall of the Campanile, that historic monumental shaft, that has been part of every artist's dream of Venice, came with a shock to the artist world. Perhaps under the best of care it might have stood for but a few years, but under the methods of a decayed government it is a wonder that it has stood so long. For years architects visiting Venice have commented upon the seeming reluctance or inability of the Italian Government to spend the sums necessary to repair and keep in order the historical architectural treasures in which it is so rich. It is most regrettable that one of the most famed of all should have to fall as a warning to the nation and the world that these architectural treasures could pass away, and would unless promptly and thoroughly repaired. The state of the Campanile was known to the Italian Government months before the catastrophe, a fact that is evidenced by the following extract from a letter written by Doctor Hillis.

"Two days ago I left Venice. Now comes the news of the great disaster. For me to-day there is but one event—the Campanile has fallen. I saw the old architect, in whose care the Campanile has been for thirty years, going over the tower, but I knew nothing of his fears. Two months ago he telegraphed the committee in Rome that the tower was in peril. The second time he was reprimanded and later cashiered.

"On Saturday last he took his son to the tower and told him it was even then falling. At noon he took a train and left Venice, saying his heart was broken and that it would kill him to witness the final fall. In less than forty-eight hours there was only a heap of ruins."

Perhaps it is indifference and it may be lack of funds that prevents the Italian Government from keeping intact its architectural treasures, but it is so essential that these be preserved for the future art inspiration of the world, that each nation should deem it a duty to aid in their perpetuation.

THE RELATION OF LANDSCAPE GARDENING TO ARCHITECTURE.

BY THOMAS HAWKES, LANDSCAPE ARCHITECT.

THE knowledge of landscape gardening has come to us from antiquity, and the mythical gardens of the Hesperides, (traditions doubtless of the beautiful creations of long past ages) have inspired the minds of many day dreamers in creating beautiful gardens around their Châteaux in Espagne.

The memory of the hanging gardens of Babylon will continue to be a reminder of past splendor. The many references of ancient writers show that the art was then in vogue, and the history of its magnificent results leads one to surmise that it was a part of the architectural education of those times, and it has been ever since more or less identified with the buildings of the succeeding ages.

During the Dark Ages it doubtless lapsed almost into disuse. Kept alive by the monks, it revived with the renaissance.

In England, landscape gardening has received more attention than elsewhere. The concentration there of wealth in the hands of a few, owning large tracts of country, has enabled the owners to spend vast sums of money to improve their estates, and produce scenic effects that are unsurpassed. Almost what may be termed a "style" has been produced there, through modifications of the Italian, of the French adaptation of the same, and of the Flemish fashions. Practiced understandingly there for centuries, landscape gardening has reached a high standard of art, and is, whether so esteemed or not, equal to or above all other arts, and is highly beneficial and educational.

In this country landscape gardening has been more generally "honored in the breach than the observance," and the efforts in its behalf have been, mostly, of an indifferent character. Of late years considerable attention has been paid to it, and some of our architects are realizing that to study the disposition and arrangement of the grounds is essential to the fitness and beauty of the building.

And with the general awakening of art here there is room for hope that the art of landscape gardening will take root, and a universal knowledge of the beauty and harmony of landscape treatment will obtain, whose results will rival and may be eclipse those attained in the Old World.

As architecture is distinguished from mere building by its artistic and decorative element, so is landscape architecture from the so-called landscape gardening of the nurseryman, the grader, the florist or the gardener, the crudities of whose attempts at landscape architecture are as painful to the senses of the trained artist as is the lack of proper design in the building of the mere mason, carpenter or other craftsman, to the trained architect. In the same sense that a knowledge of masonry and carpentry and the other crafts required in erecting a building is necessary to the architect, so is a knowledge of trees, shrubs, plants, the raising and leveling of grounds, the making of roads, ponds, etc., essential to the landscape architect. While the practitioner must be conversant with such matters, he must have knowledge beyond that. No landscape gardening can be rightly done without a knowledge of architecture, for how can one make a landscape harmonize with the building if he lack that knowledge? It therefore follows that no one is better qualified to become a landscape architect than the architect himself, especially in that department where the work consists in laying out the grounds around buildings.

Few are those who have had the faculty of uniting those branches of the profession, but it is to be hoped that in the curriculum of the future architect a considerable share of study will be given to the harmonizing of frames (landscapes) with pictures (buildings). Universal genius is rare, and unless an architect is familiar with landscape gardening he will do well to consult the landscape artist before definitely designing his work. The two must work in perfect accord, and the happiest results will follow. The landscape architect should confine his services strictly to his department, such as the selection of the site for the buildings, with the arrangement of the approaches, the position of the stables and outbuildings, taking into consideration shelter, the views, etc. These must all be carefully studied by him with regard to the general relation of the parts to the whole, and the harmonious effects required to be produced. This preliminary study is a great aid to the architect, who can then design his building to fit the general scheme. An excellent building is often spoiled by its inappropriate surroundings. The consultation with the landscape architect will generally prevent this. His work should be to aid the architect in producing architectural effects, and this result can be achieved if the landscape requirements be studied before the planning of the building is definitely made. But to obtain this

> "Something more is needed than expense,
> And something previous e'en to taste, 'tis sense."

The exercise of this quality will never result in "a house set in an ill place," "want of wood, shade and shelter," "want of prospect and level grounds."

The term landscape "architect" is used in contradistinction to landscape "gardener," for the one who is both architect and gardener. He should be engaged by the architect's client, who should pay his fees. He should be at the disposition of the architect for consultation and service, always remembering that it is primarily the *building* that is needed, and that the disposition of the grounds is a matter of secondary interest to him, however important it may seem to the other. The mutual object of obtaining the best result for the client will, with skilful men, produce the happiest effects, in the same sense of unity obtained by the perfect result of the sculptor and architect, when the latter designs the pedestal for the masterpiece of the former.

Landscape architecture requires its practitioner to harness to *utility,* simplicity, variety, dignity and a correct sense of proportion with a high ideal of the beautiful. Until such time comes that the ideal architect, whose ambidextrous skill enables him to design his buildings and grounds at the same time, general progress in landscape work will be slow, for however much the architect may desire the aid of his landscape brother there is ofttimes a client to be consulted, who, deficient in artistic instincts, does not see the necessity of obtaining competent advice about his grounds, but thinks he can attend to that himself with the aid of some tradesmen. It is therefore earnestly to be desired that landscape architecture will be studied by the profession and that architects will realize the importance of it as an aid to the success of their own art.

> "To build, to plant, whatever you intend,
> To rear the column, or the arch to bend,
> To swell the terrace or to sink the grot,
> In all let nature never be forgot.
> But treat the goddess like a modest fair,
> Nor overdress nor leave her wholly bare;
> Let not each beauty everywhere be spied,
> Where half the skill is decently to hide.
> He gains all points who pleasingly confounds,
> Surprises, varies, and conceals the bounds.
> *Consult the genius of the place in all;*
> That tells the waters or to rise or fall;
> Or helps the ambitious hill the heavens to scale,
> Or scoops in circling theaters the vale;
> Calls in the country, catches open glades,
> Joins willing woods, and varies shades from shades.
> Now breaks, or now directs, the intending lines,
> Paints as you plant, and, as you work, designs.
> Still follow *sense*, of every art the soul,
> Parts answering parts shall slide into the whole,
> Spontaneous beauties all around advance,
> Start even from difficulty, strike from chance."

It must not be assumed that the relation of landscape gardening to architecture applies only to great mansions and large buildings. Unpretentious country homes require the aid of *simple* art to preserve the harmony of the beautiful in nature. These country homes should not savor of the city, and the tendency in that direction is deplorable. Neither should an enormous pile of marble or stone be erected in rural scenes, with the apparent intent to overawe its more humble neighbor. It is a glaring splash on the resenting landscape. A country mansion should be built in its own spacious grounds, partially hidden in its groves, and so far removed from its humbler neighbors that it does not heighten its own importance nor detract from theirs by its presence. The house may be as formal and imposing as its owner may desire and the architect may design, and the treatment of the grounds be in accordance with its dignity, but not stilted or formal. The following lines, deriding such a grandiose treatment of grounds, teach some of the truths of landscape art:

> "No pleasing intricacies intervene,
> No artful wildness to perplex the scene;
> Grove nods at grove, each valley has a brother,
> And half the platform just reflects the other.
> The suffering eye inverted nature sees,
> Trees cut to statues, statues thick as trees;
> With here a fountain, never to play'd,

And there a summerhouse that knows no shade;
Here Amphitrite sails through myrtle bowers;
There gladiators fight, or die in flowers;
Unwater'd see the drooping sea horse mourn,
And swallows roost in Nilu's dusty urn."

As a nation we have been so intent on progress in the material things that bring what is termed prosperity, that until quite lately the arts and graces of life have generally been sadly neglected. The astounding prosperity of the country has been a long way ahead of its art, but with characteristic impetuosity we are endeavoring to catch up with that. Most notably is this the case with our architecture. Would that the same were true of landscape art. However, it will follow, for it has ever been, "when ages grow to civility and elegancy man cometh to build stately, sooner than to garden finely, as if gardening were the greater perfection." The "building stately" is inaugurated and we may probably witness even greater magnificence in gardening than that recorded of Lucullus. As he outrivaled Marius so may some modern Crœsus outrival him.

And as ————————, "the Universal Cause
Acts not by partial, but by general laws."

So will the practice of landscape gardening become general, and the present barren, unkempt grounds around the homes of the people become verdant, and bloom with "nature's smiles."

With clients of many and mixed races, and architects of varying nationality, we have in our latest work gone to France for our inspirations of the renaissance and to England for our style of landscape improvements, and this combination promises to be a happy one, for whereas the classical style of building requires a dignified and formal treatment of the grounds immediately around the building, their natural treatment as they recede from it give an added charm to the stateliness of the structure.

SHOP-MIXED COMBINATIONS.

THE best machine-mixed paints are better than the best shop-mixed paints, other things being equal. But many painters have an insuperable objection to using any paint of which they do not know the formula. This objection does not apply, of course, to the many excellent prepared paints now on the market, with formula, analysis and guarantee printed on the label.

The painter, however, also likes to save the profit of manufacturing for himself and there is no very great objection to his doing so if he makes the combination with the necessary care. The approved formula is about two-thirds American zinc to one-third lead, tinted to the desired shade. The proper procedure is to procure both the zinc and the lead ground in oil. First break up the zinc in oil or turpentine, according to the nature of the work, then break up the lead in the same manner, and finally stir the latter into the former, always adding the heavier pigment to the lighter. The tinting color is finally incorporated and the whole then run through the painters' sieve or strainer.

This method will insure as close an incorporation of the constituent pigments as is possible without grinding. Such a combination will look better and wear longer than any of the paints ordinarily used, the only precautions being that the surface to which it is applied is perfectly dry, that the work is not done in humid weather, and that each coat is allowed to harden well.

CHICAGO NATIONAL BANK BUILDING.

CIVILIZATION has left the record of its advance from century to century in the character of its architecture as applied to the great national institutions — the church, the school, the home, the bank, etc. Centuries ago the banker was content to occupy a chair and a table in some public place; he was called a money-changer. But, with the growth of established institutions, and the nationalization of banking, the business took on a dignity and importance that demanded a suitable housing, and especially at the present day the bank building is considered appropriately the ne plus ultra of modern architecture. It has been a gradual evolution to the highest form of the art, just as banking as a profession has gradually reached an importance second to none other.

The modern bank demands a building of its own, detached from all other uses, self-contained, impregnable and perfectly adapted to the needs of the business. Such is the magnificent building provided for the Chicago National Bank — a building which, without exaggeration, may be characterized as the perfection of bank architecture.

This is the second bank of the entirely isolated type to be erected in Chicago, and evidently the fashion of separate bank buildings has come to stay, for Chicago, with its international port of entry and its wonderfully increasing importance as a commercial center, demands the best in every line. The plan of this bank provides protection against all the elements of spoliation or decay — moral, physical, natural. The material throughout is fireproof; the vaults are practicably indestructible; all that the brain of man has yet conceived in the way of permanence and elegance is combined in this magnificent modern structure.

The site selected for the bank is in Monroe street, between La Salle and Clark streets, which is in the banking and business center of the city. The problem then presented to the architects, Messrs. Jenney & Mundie, was to erect an ideal bank building on an interior lot, and to provide sufficient natural light under the most difficult conditions. It is to the credit of the architects that the entire structure was erected complete in the best manner

MANTEL OF MAHOGANY AND GEORGIA GREEN MARBLE IN THE PRESIDENT'S ROOM.

in the short space of twelve months, and that the lighting is astonishingly thorough and satisfactory.

To the observant eye the rich and beautiful combination of marbles and bronzes and mahogany seen on every hand on entering the building presents a softness and elegance of color and tone which is delightful. All praise to the minds that utilized all these noble materials and combined them into one harmonious and magnificent whole.

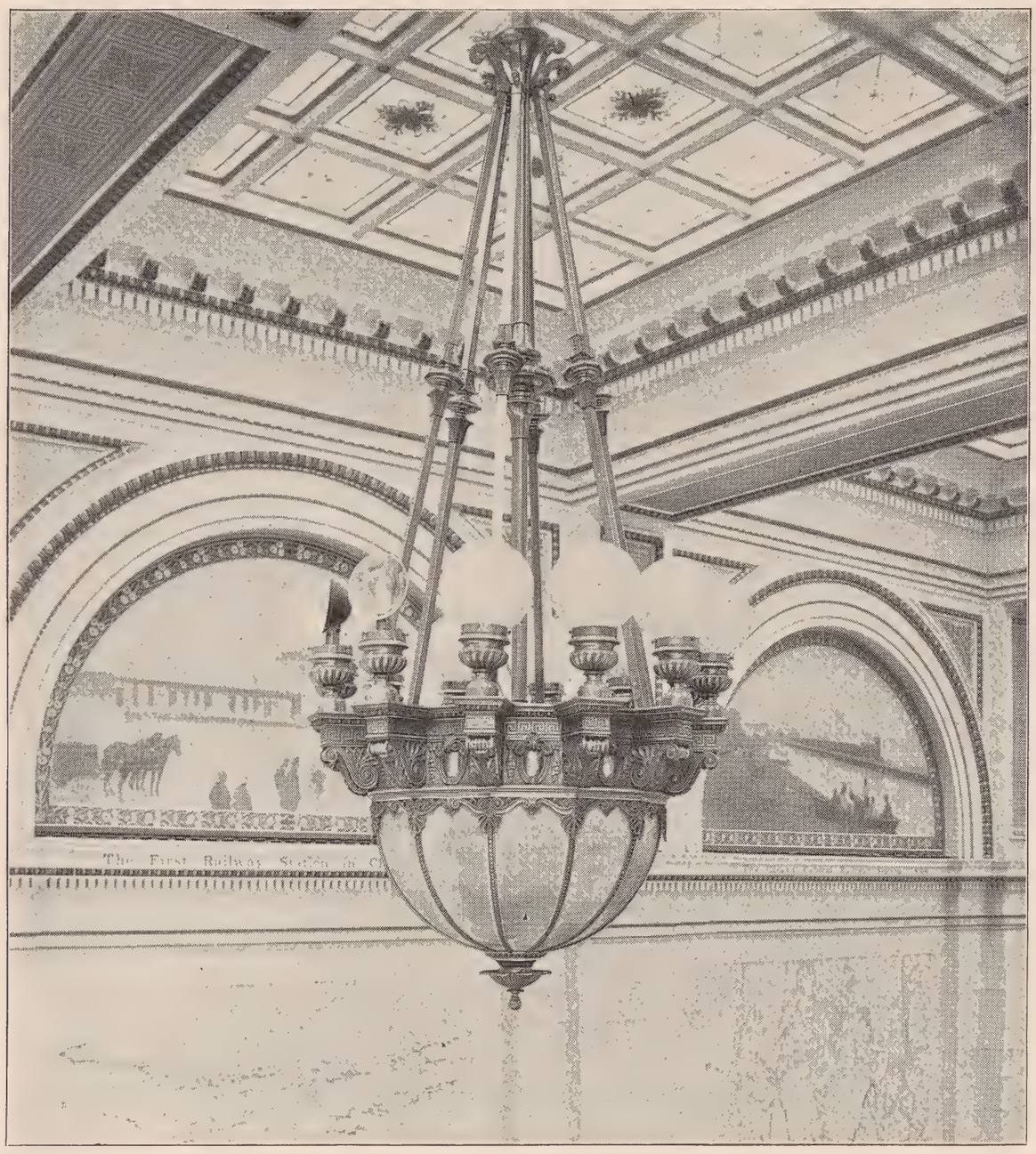
The façade of the Chicago National Bank is impressive in its dignified simplicity. There is no overornamentation to detract from its dignity, stateliness and perfect beauty of the Roman Corinthian architecture. The ninety feet frontage is divided into five bays, the three counter bays forming a portico, consisting of four Corinthian columns, each forty-six feet high including pedestal and cap, surmounted by the classic pediment. This front, with the exception of the base course, is built entirely of buff Bedford stone from the Hoosier quarries of the Bedford Quarries Company. The base course and pedestals are of polished granite. The pedestals are each of a single stone and the stately pillars rest upon these massive blocks.

Before touching upon the interior of the bank, the foundations will prove an interesting subject. The bank being on an interior lot, the side walls are against the buildings on each side which, having been erected in the hurry soon after the Chicago fire, have walls of common and rather poor masonry. It was not practical to enter upon the premises on either side for the usual footings of steel grillage, that must be centered under the columns embedded in the side walls of the old buildings. These side columns carry the trusses spanning the bank room and therefore require large foundations. It was essential that there be no settlement whatsoever.

These conditions rendering the usual steel grillage impracticable, it was necessary to find other foundations. Piles driven to sufficient depth to avoid any possibility of decay would be very difficult to drive, as many of them would be under the old party walls and, moreover, the driving would cause serious injury to the neighboring buildings.

After due consideration it was decided to use a concrete pier foundation extending down to the hard pan. This was the first

time this kind of foundation, called misson foundation, was used in this city for an entire building. It was accomplished by digging wells with their central vertical axes located under the centers of the respective columns they were destined to support. These wells, which are four feet six inches in diameter for the side and rear walls, and five feet for the front, were excavated down to the hard pan about seventy-three feet below sidewalk where the clay was dry and hard and so compressed that it yielded only to the pick. The bottoms of the wells were enlarged, bell shape, so as to have a bearing in the clay of from six feet six inches to seven feet four inches diameter according to the load to be carried,



DETAIL VIEW OF CHANDELIER.

which was estimated at four tons per square foot. During the excavations the walls of the wells were protected by sheet piling held in place by interior hoops. This protection was left there when the wells were filled with concrete, until near the surface the fall was sufficient to pack the concrete. The upper twenty-five feet were rammed hard.

In the construction of the building the metal skeleton, invented in '83 by Mr. W. L. B. Jenney for the Home Insurance Building, Chicago, is used. There are no interior columns. In the main bank room, which is only one story, the roof is carried on trusses spanning the room and resting on columns embedded in the side walls. These columns were extended above the bank room, against the party walls for some forty feet, and to them are riveted steel channels and T-braces. These columns are themselves braced back to the trusses, the object being to hold securely the side walls in case of the burning of the old combustible buildings on either side. There is nothing unusual in the other portions of the steel skeleton construction. All the steel throughout the building is fireproofed.

The entrance is guarded by doors of most striking appearance. They are of solid bronze, each cast in one piece, not in sections as is generally the case. Each is twelve feet high and nearly six feet wide and their combined weight is two tons. The decoration is on the classic order, the design being in panels, square in the upper parts of the doors, elongated in the lower, with borderings of highly ornamented rosettes and moldings. In the center of each upper panel is a many foliated rosette, each lower panel being filled with an exquisitely modeled palm branch. One is tempted to pause many minutes, lost in admiration of these works of art in bronzes, before going farther.

Passing through the inner doors of plate glass, with bright bronze frames, the spacious vestibule is entered. This is beautifully finished in statuary marble. On each side, about four feet apart, are two Pompeiian Ionic, white Italian marble pillars. Set in the ceiling are two large panels, one running to the main entrance, the other to the entrance of the great banking-room. The walls are also divided into panels which are separated by pilasters, surmounted by Ionic half capitals, all constructed of English veined and white Italian marble. The stairways on both sides of the elevator, one leading to the safe deposit vaults in the basement, the other to the floors above, are also of this Italian marble.

The elevator car and inclosure are of solid statuary bronze of a simple and delicate design, skilfully executed and finished in the bright tone of the metal. The same pattern is followed in the workmanship of the gate which immediately adjoins this, guarding one of the two entrances to the stairway leading to the safe deposit vaults below.

To the left upon entering the vestibule is the door into the Home Savings Bank, of mahogany, with a large glass panel. Just across this, on the right, is the solid mahogany door which leads into the hall connecting with the president's and the directors' rooms.

The beauty of this entrance and hall has been but lightly touched upon; they must be seen to be appreciated. There is no rashness in the assertion that in perfection of design and of accomplishment of the same they are excelled by none in the country. Yet they are but fitting introductions to further noble beauties.

From the entrance hall we pass through a doorway protected by magnificent grille doors into the great banking-room. Here, as everywhere else in the structure, the beauty is of the most impressive character. The woodwork, the marbles, the bronzes, the leaded glasses, all of the finest the world produces, have been perfected in detail and blended together in absolute harmony. There is nothing out of place; no garish display of colors, no meretricious glamour to offend the eye. The lofty ceiling gives dignity and stateliness, the great marble panels in the walls, with the segmental pictures above, can not fail to gratify the highest artistic sense. At the same time, the practical side of the mind of man is gratified. In the planning of this room it was not forgotten that it was to be used as well as to be looked at. Accordingly every attention has been paid to the conveniences, equipments, etc., which lead to the most speedy and satisfactory transaction of business in a bank.

Probably that which one would notice first upon entering the room in the light; it is brighter than the light in the street, and it is doubtful if in any place in the world there is a finer example of an interior room whose natural lighting has been so perfected. This is produced by having the roof of five A-shaped skylights, each 80 feet long, composed of twelve thousand five hundred square feet of wire glass, set in panels four feet square. The ceiling under this is entirely of leaded opalescent and Venetian glass in square panels.

The room is one hundred and thirty-three feet long, eight-seven feet wide and forty-four feet high. Marble covers the four walls to a height of twenty-eight feet, white Italian being used for the wainscot of the working space, statuary Italian for wainscoting elsewhere, also for the piers and panel stiles. There are twelve panels, five on each side, two on the north end. These are of Pavanazzo marble and are the largest panels of this marble ever used in any building in this country. They are each formed of four slabs, each of which is seven feet wide and eight feet high. The size of these made it difficult to transport them, as they were inclined to fall to pieces along the line of the strong veining, so it was necessary to ship them cemented to thin slabs of stone or slate. Even this often failed, so that the marble arrived in many pieces and was set much like mosaic, great care being used in the matching, which is so perfect as to leave nothing to be desired. The surface of these panels is white, with veins of a dull blue shade, with touches of a deep cream color, all joining so as to form an irregular sort of pattern, which has been preserved perfectly in the matching, adding greatly to the exquisite beauty of the panels. They are separated by pilasters of white second statuary marble.

Above the marble the walls are of plaster, ornamented in relief and decorated in color and gilding of pure gold leaf; this same ornamentation has been followed in the embellishment of the large beams under each truss.

Probably the most interesting feature in the decoration of the room is the sixteen pictures in the arches of the walls. In designing this room the architects obtained authority to use a series of decorative pictures, and the president of the bank directed that they be illustrative of the history of Chicago. The same idea obtained in Brussels in the redecorating of their beautiful old historical City Hall by the municipality. The motive was views of ancient Brussels and so admirably was this idea carried out that these pictorial decorations are to-day one of the most interesting sights in the city.

The paintings decorating the bank room are semi-circular and about sixteen feet long by nine feet high. They were painted on canvas on stretchers and set in place in the segmental frames over the great Pavanazzo panels and secured by a small gilt molding.

To Mr. Lawrence C. Earle, formerly of Chicago, now of Montclair, New Jersey, was awarded the work of painting these pictures. Mr. Earle's task was a most difficult one, for the pictures must be not only historically accurate but also absolutely in harmony with each other and with their environment, which is composed chiefly of marble of a very light color, most of it white. This is not a background one would choose for paintings. In order to meet this lighter condition Mr. Earle endeavored to

keep the tone of the pictures as high as possible, but it was often impossible to reach the desired tone without violating the historic conditions. The Indians and trappers did not wear white shirts, nor was there anything in their costumes that would stand being painted in a high key. Some of the subjects, however, offered special features for high tones; such as the Court of Honor at the World's Columbian Exposition, the Chicago river, with the great white whaleback steamer in mid-river, and the Last Council of the Pottawatomies.

Each picture has a colored border to render it more decorative and to define more distinctly its outlines. In seeking a motive for this border Mr. Earle happily recalled the very popular theory that the name Chicago was derived, through the Chippewa dialect, from the name given by the natives to the Chicago river from the fact that its banks produced plentifully the wild leek or onion. This plant was adapted admirably to Mr. Earle's purpose and he arranged the design and color in pleasing harmony with the conditions surrounding.

The pictures begin at the left of the entrance. The first is the camp of Marquette on the south branch of the river near the Sag. The second is old Fort Dearborn, which was situated on the south side of the Chicago river at the bend where the river turned to enter the lake. The third is the Kinzie House. The fourth depicts Wolf Point, showing the Sauganash Hotel, which was the first frame house in Chicago; the Green Tree Tavern, and the first postoffice, which was a small log building near the corner of Lake and South Water streets.

The fifth is the first shipment of grain and the sixth shows the first movable bridge which was at Dearborn street. The seventh is the Last Council of the Pottawatomies. This was an important historical event, marking the great change in Chicago, the going out of the Indian, the coming in of the white man.

The eighth is the flood of eighteen hundred and forty-nine, when the Desplaines river overflowed and carried away dwellings and factories and bridges. The ninth is the Frink & Walker stage office at the southwest corner of Dearborn and Lake. This was before the advent of the railroad, when the stages went to all points. The tenth is the old Galena Depot, marking the epoch of the arrival of the railroad and the departure of the stage. The eleventh pictures the old Illinois Central Station which was destroyed in the great fire. The twelfth is Clark street in 1857, between Lake and Randolph, where the Sherman House now is. In the thirteenth the Ogden House is shown. This was the only house on the north side left standing after the great fire of 1871, and in the painting it is pictured surrounded by the ruins. The last three pictures are scenes of the present time. The fourteenth is a view of the Chicago river in 1900, showing elevators, shipping and traffic on land and water and in mid-stream the great whaleback coming in. The fifteenth shows the Court of Honor at the Columbian Exposition. The minds of all who saw that are still filled with the memories of its beauties, to which full justice has been done in this picture. The sixteenth and last is a view of State street in 1900.

The lover of the beautiful would do well to see these pictures. They are more than "worth while" and add greatly to the artistic appearance of the room and accentuate its delightful difference from other rooms of its kind. To the artist and his associates too much credit can not be given for their splendid work.

The public space occupies the center of this great room. The floor is of white Vermont marble tiles, two feet square, with dots and borders of Georgia green marble. The handsome counters are of this same green marble, with tops of Belgian black, surmounted by grillework of beautifully wrought statuary bronze, and in the center of the public space are solid desks of mahogany for the use of the bank's customers. The material and workmanship of these desks are of the very highest order.

For lighting this room at night there are eight large bronze electroliers with twelve lights in each. The opalescent glass and the metalwork of these make them highly ornamental. On top of the bronze grille inclosures are globes of opalescent glass set on bronze standards.

At the right of the entrance doors is the vice-president's office, and opening from this is the president's office, characterized by its quiet elegance. It is paneled in mahogany, with a border of Georgia green marble. The walls are hung with green burlap with a gold border; over the marble floor is an extremely handsome Persian rug. The mantel is of mahogany, with a Georgia green marble base with caps of bronze. The bookcase, desk, table and chairs are also of mahogany. This office opens on the private passage which is entered from the main entrance hall, and which is for the use of the directors and officials of the bank. This passage is paneled in mahogany. Just across from the president's office is the meeting-room for the directors. Here the use of mahogany has been discontinued and the material used is the finest old English quarter-sawed bog oak; the style of the room is Roman Doric.

The walls are hung in Pompeiian red burlap, below which is the oak paneling, six feet high, having a border along its base of Georgia green marble. The frieze is of aluminum with the decoration painted upon it. The ceiling is heavily beamed.

The most noticeable feature of this very striking room is its magnificent mantel extending from floor to cornice. It is exquisitely carved. The Doric columns run to the top of the large panel which fills the upper part. About the grate is a border of Georgia green marble.

The table and chairs are of the same English oak as is the bookcase, with its improved ball-bearing sliding doors, which run across the east end of the room. A fine rug covers the floor. Two large windows opening upon the street give ample light in the daytime, while three handsome bronze electroliers furnish light for the night.

The large banking-room of the Home Savings Bank opens off the main banking-room, and also off the main vestibule. The entrance to the hall is guarded by a plate glass and mahogany door and to the main banking room by a handsome bronze gate, beautifully designed and richly finished in the bright tone of the metal. This gate is similar to the pair that is at the main entrance to the large room and to the gate that is at the head of the stairway leading to the safe deposit vaults.

The Home Savings Bank is finished in harmony with the large banking-room. Its walls are wainscoted in Verd antique marble and hung with buff burlap. Its counters are of the same design and the same material as those in the room beyond. The woodwork, desks, etc., are mahogany. The ceiling is two-thirds skylight, and there are four handsome bronze electroliers.

The halls in the second and third stories are finished in English veined Vermont marble, as are all the toilet rooms, and all the floors are of white Hollister marble.

The second floor is occupied by the Equitable Trust Company whose quarters are finished much in the same style as those below as regards counters, floor and fixtures. The walls are wainscoted in mahogany, with a border of Georgia green marble at the base and are hung with burlap of a deep buff shade. The style is Italian renaissance and this same motive is followed out in the third floor where are situated the offices of the bank's attorneys. Here the numerous offices are all wainscoted and heavily beamed in fine mahogany.

The fourth floor is given up entirely to kitchen and dining

VAULTS FOR GOLD, SILVER, NOTES AND VALUABLES OF THE BANK.

rooms for the officers and the employes of the institution. On the other side of the kitchen is the officers' lunch room. This is also furnished in Flemish oak. There is also a very handsome mantel and sideboard of this wood. The walls are wainscoted with it and have a border of Georgia green marble. Above the paneling the walls are hung with a burlap of a deep orange color. There are three windows and a skylight of colored glass. The

passage leading to this room from the hall is paneled to the ceiling in mahogany.

The various toilet rooms throughout the building are equipped with insulated copper water coolers, supplied from a Jewel filter with filtered water. In each cooler are block tin coils. All of the exposed plumbing, pipes, faucets and marble supports are of white metal. The marble work in these rooms is supported without any exposed metal and the front pilasters are four-inch square marble with turned marble legs. All tanks are concealed behind marble.

HEATING AND VENTILATION.

The heating and the ventilation of the different rooms in the building are accomplished in a very interesting manner. In the walls of each room there are one or more openings, each of which is provided with an ornamental bronze register. There is a flow of fresh air, which is cool in the summer and warm in the winter, through these registers. The air enters the rooms at distances varying from eight to twelve feet above the floor, according to the height of the rooms, and the air is drawn from these rooms through openings in the walls near the floor, or in the floor. The fresh air is taken from the outside above the roof at a certain point, which was determined upon by actual experiments which extended over a period of forty-five days, as being practically free from smoke from the surrounding buildings, regardless of the direction of the wind.

The bank building is located between high buildings and, being rather low, it will easily be seen that the space between the high structures affords a very good place for eddies and currents of air, which in the winter is loaded with smoke.

In the basement of the building there is placed a steel and iron blower which has a wheel one hundred and two inches in diameter, with ten large blades. This wheel, or blower, is driven by an electric motor at any desired speed, but ordinarily it performs about one hundred and fifty revolutions per minute. At this speed the blower draws the air from an opening in the roof through a duct in the attic three feet wide and ten feet high, at a velocity of about two thousand feet per minute, which speed is practically equal to a wind of twenty miles per hour. In winter the air is first drawn through stacks of steam coils which temper the air and then it is forced over the heating coils, which heat it to a high temperature, and is mixed in a mixing chamber with cold air, which is drawn through a by-pass under the coils, to the desired temperature, and it is then forced through numerous ducts into the different rooms at various velocities, averaging, however, four hundred feet to the minute. This is a current that is practically unnoticeable and does not cause any sensation of draft. Before the air is heated it passes through a spray of clean water, which removes soot or dust, and it is then drawn through numerous copper baffle plates, which whip the moisture out of it.

The building is equipped with the Powers system of automatic heat regulation, each room being supplied with one or more thermostats. These thermostats automatically control the mixing dampers at the heating chamber so that the proper proportions of hot and cold air are admitted to the rooms.

The thermostats, being adjustable, may be set to maintain the temperature at precisely the point desired.

In the basement, in a separate room, adjoining the blower, is a large fan of the same size and construction as the blower. From the various rooms in the building and terminating in the room containing this fan, are exhaust ducts through which the foul air is drawn and discharged by this fan through a large shaft into the outer air at a point about one hundred feet distant from the inlet for fresh air. This fan is operated by an electric motor similar to the one that is used for the blower. The air in the rooms can be changed completely in fifteen minutes without the slightest sensation of draft being caused.

In the receiving chamber there are two large air registers which admit a large volume of hot air, which prevents the cold air from the outside from entering the building, regulated by thermostats.

In both summer and winter, as desired, the air exhausted from the rooms can be turned into the attic space between the glass ceiling over the main banking room and the skylights above. By actual experiments it has been demonstrated that in the summer, by having the air entering at one end of the attic and leaving at the other end, the temperature in the banking room is reduced about eight degrees.

The building is heated perfectly without being subjected to the annoyances of dirt and noise; it has no boilers or engines of its own. The steam for heating the air and the water is brought from a plant located in an adjoining building and is run through supply pipes which are in the basement, and from there it is distributed through the building. Direct radiators receive and distribute the heat on the second, third and fourth floors.

The Powers system of heat regulation is here applied to valves at the radiators, the thermostats automatically causing these valves to open when steam is needed, and to close when the proper room temperature is reached.

Occupants of these rooms are freed from the annoyance of a constantly changing temperature; a uniform and healthful degree of heat being maintained without attention on their part.

MACHINERY AND ELECTRICITY.

The system by which the electric current, which provides power and light for the building, is received and distributed, is as interesting as it is perfect. As may be said of every other detail of the structure, the electrical system is of the very best, most improved, and up-to-date type and it has no superior.

This electric current for the lighting, for the blast and exhaust fan motors and return condensation pumps, for the electric elevator and for the electric air compressor for the sewerage ejector, is furnished by the Chicago Edison Company.

There is a switchboard of polished marble upon which are mounted the power meter and the light meter. To this switchboard run the two feeders for power and light, and the switches regulating the feeders of different portions of the building are located here. Iron conduits carry these feeders from the switchboard to cut-out centers, and from these centers the current to the lights and to the motors is carried by smaller distributing circuits. These distributing centers consist each one of a box of sheet steel; within this box is an inner box of white marble about seven-eighths of an inch in thickness, which is separated from the steel box by a space of three inches. To the steel box are joined the iron conduits, the wires themselves being brought into the cut-out clips which are fastened to the marble box. In front of each box is an ornamental door of solid statuary bronze, with a glass case on the outside of each, containing a tabulated list of the circuits and of the lights which they control.

Besides the lighting the wiring provides for two thirty horse-power motors for the blower system, two two-horse-power motors for the air compressors, and one eighteen-horse-power motor for the electric elevator. The engine for this elevator is located in the roof space above the shaft, there being no room for it in the basement.

In addition to the wiring for power and light, there is a remarkably good system of telephones, call bells, buzzers, etc., as an assistance in the transaction of business between the different departments of the bank.

In the basement the ceilings are plastered on expanded metal and are suspended from the tile arches above, and through the spaces between the ceiling and the tile arches all pipes and ducts are run.

THE GREAT VAULTS.

A system of four vaults are in this building and are marvels of construction and safety. The vaults used by the Chicago National Bank for their own purposes consist of three tiers of five vaults each, making fifteen separate vaults in all. These are so built as to afford absolute protection against fire, water, mob violence or the ingenuity of the cracksman. In their construction all these requirements were considered, no expense spared and every effort made to render them beyond criticism.

These vaults are at the rear of the banking-room, directly facing the main entrance doors, and stand entirely isolated on all sides so that the night watchman can walk entirely around them. The surrounding walls are composed of hard brick, laid in Portland cement, and are four feet in thickness in the basement, three feet on the main banking floor and two feet through at the third story. A series of I beams, crossing each other and imbedded in concrete four feet thick, form the foundations and preclude all possibilities of tunnelling.

The lower tier is in the basement of the building and is designed for the storage of old account books and valuable papers, having steel shelves for the safe holding of these records. Directly above and lying even with the first floor, are the specially designed mob and burglar proof vaults in which are kept the bank's cash and securities. The five separate compartments into which this section is divided are each equipped with its own entrance secured by enormous steel doors and vestibules.

The construction throughout is of the most modern type, and contains many features not possessed by any other bank vaults. All sides are open to inspection and to circumvent even mob violence four layers of steel, one inch thick, chrome and bessemer plates, fastened together with 1¼-inch screws, were adopted. There are no joints at the corners or edges, but they are solid, welded plates, thus affording no opportunity for the entrance of explosives.

In addition to all this each one of the five entrances to the vaults is guarded by a double set of massive chrome steel doors, the outer weighing over five tons. Although so heavy and fully fifteen inches in thickness, it is so admirably balanced that a child could swing it. These doors are perfectly fitted and are both air and water tight when locked. This result is achieved by means of tongues and grooves in the doors and jamb, which are packed with an elastic non-liquid-absorbing material. The pressure necessary to force the door shut against this secure packing is obtained by a compound pressure apparatus operated by a specially designed hand wheel.

The outer door carries twenty-four bolts, each 2¾ inches in diameter, which are shot into the locked and unlocked position automatically, and are absolutely controlled by three and four movement time locks. The boltwork alone for each of these doors weighs nearly a ton. To force such a door open requires the shearing of the full twenty-four bolts with a shearing surface of one square foot, which is equal to a force of 15,000,000 pounds. In addition, the mechanism has this peculiarity, that if one, or even several, of the connecting time-lock wheels should get loose, the boltwork would operate just as surely, so long as even one remains intact. This obviates that dreaded lockout, which so frequently occurs in banks, and this possibility is likewise guarded against by a special arrangement of communication through the division partition by means of small doors.

All the inner doors are ten inches thick, and each contains twenty-two bolts 1¾ inches in diameter and is locked by two combination locks requiring the services of two officers to unlock. These doors are also absolutely air-tight. A heavy bessemer steel grille divides the inner of these vaults into two large departments, the rear one containing ten specially designed safes holding the reserve, while the front one has twenty-four similar safes for the use of the tellers in their daily work.

In addition to all these barriers of strength, extra safety is secured by means of electrical protection through a system which would instantly call to the building a force of armed police were the vault doors either opened or closed at an unusual hour.

Above the cash vaults and made easily accessible by a short flight of iron steps to the third story in this remarkable construction. Built also of steel, its five departments are utilized for the safekeeping of the bank's books and papers.

The public safe deposit vault, which is separate from these, is a marvel of strength and beauty. The massive chrome steel doors are in design much like those already described, are eighteen inches thick, weigh about eight tons and the hinges over one and one-half tons. This vault is about forty-three feet long by thirty-nine feet wide, and is lined in the same manner and with the same material as the cash vault. It contains six thousand boxes, and its handsome marble entrance may be reached either by stairs or elevator. The ventilation scheme is entirely new and most effective. The air conductors are placed above the boxes near the ceiling, and have perforated front matching the bronze moldings of the ceiling. This ceiling also is a wide departure in deposit vaults, as it has bronze beams and is decorated, thus no unsightly pipes are to be seen.

A handsome, massive day gate protects the main entrance. The walls of the lobbies are all of white Italian marble. On the east side are large rooms provided for women, where they may examine their papers undisturbed, and on the west side are corresponding apartments for the use of men. The women's reception room is beautifully finished in white enamel, the style being that of the Italian renaissance. The men's room is finished in mahogany.

To the right of the deposit vault there is a strong vault for the safe storage of trunks, pictures, silverware or any valuables of this bulky nature. This vault is thoroughly ventilated and is amply protected by heavy steel doors similar to those on the banking floor.

A series of rooms have been fitted out with tables and chairs and decorated for the free use of clients of the safe deposit vaults for committee and directors' meetings.

DECORATIONS.

The decorations in the Chicago National Bank are carried out with a dignity of design and richness of color that blend most beautifully with the architecture and make a complete harmonious whole of the constructive and ornamental parts of the interior.

This decorative work was left to Spierling & Linden, and they succeeded admirably in bringing out the ensemble to such a state of perfection as to cast a rich elegance of color over the whole interior and a soft blending with finely grained mahogany, oaks and various colored marbles.

The color schemes of this great banking-room is in white and gold. In all other rooms the walls and ceilings are covered with decorator's canvas and painted in oil colors, the ornaments being carried out in gold and color. In each room a different scheme of decoration was used, consistent for the use of the room and in harmony with the wood in whch the room was finished or trimmed. Some of the rooms are carried out in Pompeiian red, some in golden yellow and others in white and gold. The ceiling of the safe deposit vault is painted on the steel plates between bronze beams, forming panels. This is the first instance of decoration of this character. A great many of the rich interior private rooms will always be closed to the public, but if by chance they should gain admission, the beauty and delight of the decorations will more than pay the visit. The studio and offices of Messrs. Spierling & Linden are located at 1216 Michigan avenue, Chicago.

ORNAMENTAL BRONZE.

Guarding the entrance of this building are two great doors of solid bronze, standing there, silent monitors of protection, strength and beauty, each cast in one piece. They stand twelve feet high and nearly six feet wide, weighing one ton each. The exquisitely modeled palm leaf in the center is surrounded by a border of highly ornamental rosettes and moldings, and one must pause to admire the marvelous work executed in these bronze giants. The inner doors are bright bronze and glass. Passing through these, one enters the spacious vestibule on the right of which are the bronze elevator enclosures and door leading to the safe deposit vaults. Entering the main banking-room, the eye is attracted by the unbroken line of counter screen of solid bronze on either side. In every detail, even to the counterbalancing of the wickets, the screen is constructed to be not only a work of art, but to meet the demands of business safety. The bronze grille doors to the Home Savings Bank, the safe deposit vaults and the center entrance gates are carried out in perfect harmony. The rich chased ornament being of a delicate and refined character, the picking of the high lights brings out all the natural beauty possessed by them. They afford protection as well as adding great beauty to the interior. The architectural effect of these grille doors has nowhere been sacrificed to the loss of security and strength, but throughout there is an all-pervading sense of strength with dignity and harmony. The entire ornamental metalwork throughout this magnificent modern structure is of genuine statuary bronze metal and is the production of and was executed by the Winslow Brothers Company, of Chicago.

ELEVATOR SERVICE.

One of the interesting features of the bank building is the electric elevator serving the safe deposit vaults and the three upper floors. This machine is what might be called an *edition de luxe* of the electric elevator.

The car which runs in the open stair-well on steel guides is a beautiful example of artistic bronzework, and harmonizes thoroughly with the decorative bronzework of the rest of the building. The machine, as before stated, is of the electric type, and is one of the most modern and recently designed machines on the market. The small lever in the car gives the operator thorough control of its direction of motion and speed; furthermore, the machine is automatic in its operation in that, should the operator in any way fail in his duty the machine itself will stop accurately at the terminal landings, or stop immediately if the operator, for any reason, leaves his post or the current actuating the elevator is interrupted.

This portion of the bank equipment was furnished by the Winslow Elevator & Machine Company, and has been much admired and commented upon by visitors at the bank building who are interested in modern machinery of this character.

MARBLEWORK.

The Peoria Stone and Marble Works, of Peoria, Illinois, have consummated one of the finest pieces of interior marblework in the country in this bank building. The great panels of Pavanazzo and pilasters of second statuary marbles, imported especially from Italy, adorn the walls. The green Georgia verde antique and Belgian black in the counters of the great banking-room present a strong contrast of color and effect. The main entrance, with its columns of English-veined Italian marble, with pilasters and panels of the same material, presents to the eye a strong and striking picture. The second floor is carried out in the English-veined Vermont marble, and the entrance door to the Equitable Trust Company, which is arched and carried out with carving, is of the same material. The stairs and wainscoting are laid rich in marble, and truly one might call this a marble palace for the beauty and cleanliness of the whole structure.

It seems appropriate to show how such a bank building is adapted to the commercial uses for which it was constructed, and the stability upon which its financial purposes rest, and this is best indicated by the following statement, issued July 16, 1902, regarding its financial condition:

RESOURCES.

Loans and Discounts		$11,191,547 77
Overdrafts		4,528 45
Bonds for Circulation		50,000 00
Other Bonds on Hand		2,574,317 48
Banking House and Safe Deposit Vaults		250,000 00
CASH ASSETS —		
Cash on Hand	$4,217,376 40	
City Checks	652,190 97	
Due from Other Banks	2,555,632 37	
United States Treasurer	62,000 00	
		7,487,199 74
Total		$21,557,593 44

LIABILITIES.

Capital Stock Paid in		$1,000,000 00
Surplus Fund		1,000,000 00
Undivided Profits		294,598 12
Circulation		49,500 00
DEPOSITS —		
Individuals	$15,806,833 49	
Banks	3,406,661 83	
		19,213,495 32
Total		$21,557,593 44

Interest Paid on Accounts.— Interest is paid on the checking accounts of individuals, firms and corporations.

Certificates of Deposit.— Certificates of Deposit are issued for fixed periods, on which interest is allowed at current rates. Sums of $50 or more received repayable on demand without interest.

Letters of Credit.— Letters of Credit for travelers issued, available in the principal cities of the world.

Foreign Exchange.— Foreign Exchange bought and sold. Cable transfers made.

Bonds.— Municipal, railroad, gas and other corporation bonds bought and sold.

Correspondence or a personal interview, with a view to business relations, respectfully invited.

OFFICERS: J. R. Walsh, president; Andrew McNally, vice-president; F. M. Blount, vice-president; T. M. Jackson, cashier; F. W. McLean, assistant cashier.

DIRECTORS: C. K. G. Billings, Andrew McNally, William Best, J. R. Walsh, F. M. Blount, John M. Smyth, Maurice Rosenfeld.

The majority of people who go into a building of this character get a general effect of its beauty and grace of outline and pass over, unobservingly, the perfect details, which, joined together, make the perfect whole. In this bank, where the marbles, the woods and the metals shine forth in conspicuous beauty, it was but fitting that the minor details should be of the same high order of merit. Even the hardware used in this building is of special design. Each bronze window and transom fastening, each hinge and lock, the knobs, the rollers for the bookcase doors are the most satisfactory ever produced, in fact all those minor details have been designed and carried out to the greatest perfection.

Much more might be written about this beautiful building, but time and space forbid. As it is, scant justice has been done it in

this article. It would require a combination of the facile pen of a great descriptive writer and the enthusiastic pencil of an artist to do it the fullest justice. Chicagoans have ever been proud of their great city. Because of the possession of this new Chicago National Bank Building they have reason to hold their heads higher and be prouder than they were a year ago.

Violet Stanley Coen.

THE BUSH TEMPLE OF MUSIC.

THE Bush Temple of Music, occupying the most prominent corner on two streets of unusual width, viz.: North Clark street and Chicago avenue, forms a striking architectural feature in the North Division of Chicago. This building, being designed as a home for music and the allied arts, was erected by the heirs of the late William H. Bush, one of the pioneers of Chicago. The architect of the building, J. E. O. Pridmore, has conceived a structure at once picturesque and striking, with the dignity and beauty that will be appreciated in contrast to the ungainly outlines of so many of our modern business buildings. He was ably assisted in this work by E. Charles Hemming, his chief draftsman.

The exterior is designed in the French renaissance style, the striking feature being the lofty roof of the center pavilion, carrying clock tower and observatory. The absolutely fireproof auditorium is, of course, the central element, around which are grouped studios and offices of the modern type. Carried on heavy steel girders above the auditorium are the three smaller recital halls with adjoining parlors and retiring rooms; also a well-equipped dining hall. A conservatory of music is included, while in the French gothic roof, which crowns the main pavilion, there has been fitted up a photographic studio with the largest skylight and the most complete equipment in the West. A large portion of the main floor and part of the second is occupied by the general offices and warerooms of the Bush & Gerts Piano Company, while the balance of the main floor is occupied by a bank, safe deposit vaults, sub-postal station, express and telegraph offices, a caterer and other business concerns. A well-appointed café and barber shop occupy a majority of the basement, which portion of the building also contains the numerous plants and systems for the convenience of the tenants, including steam heating, electric light and power plants. A refrigerator system, two compressed air equipments and a filtering and ice water tank; all these devices are carried to every floor and office in the building. The auditodium proper has exceptionally spacious foyers and in connection with these is a large open-air balcony or promenade for the use of the patrons.

Although being of the most modern fireproof construction, the exit facilities of the auditorium portion are largely in excess of the legal requirements. The lighting is by electricity, with an auxiliary system of gas, imperative for the safe dismissal of an audience should the electricity fail.

The fireproofing of the building was installed by the Pioneer Fireproofing Company, with their hollow tile system of floors and partitions, insuring incombustible material and endurance of investment.

The body of the structure is the Chicago Hydraulic Company's celebrated warm gray pressed brick, with frieze and belt courses of fine white enamel brick of the same make. All architectural and ornamental members, that is, cornices, pilasters, moldings, etc., in white enameled terra cotta; also the decorative work of the many dormers of the French chateau found in a building of this type, were furnished by the Northwestern Terra Cotta Company, and illustrate the decorative and architectural possibilities of that material in an exceedingly striking and pleasing manner. The enamel brick is very harmoniously blended in with the glazed terra cotta, the whole standing out in high relief from the gray wall color and the black slate roof above, forming a very attractive color scheme. The masonry work and heavy concrete foundations were erected by William Ritchie, one of Chicago's well-known contractors.

The feature of the Chicago avenue façade is the entrance, twenty-one feet wide, leading to the music hall, finished all in terra cotta of elaborate design and overhung with a large steel and wire glass canopy.

The entrance on Clark street leads to the office building portion, occupying the east pavilion; also leading to the main auditorium.

The box office, recessed in the Chicago avenue lobby, is finished in marble. A broad marble staircase leads to the main foyer. The walls of foyer are paneled in white enameled woodwork, with characteristic modeled ornament above, and opens, through a series of French windows, directly upon the open-air balcony before mentioned. The ladies' parlor at east extremity of foyer is decorated in white enamel and rose pink; while the gentlemen's smoking-room on the floor of first balcony above has walls of Cordova yellow, with ebonized woodwork and furnishings of weathered oak. The auditorium has its greatest dimension in width, and its sweping curves and broad aisles insure unimpaired sight lines and perfect acoustics, the outlines being that of the ancient Greek theater, having the stage opening placed along the length of oval instead of at the end, as is usual in most theaters. Naturally this gives a wide proscenium arch, a boon to the stage artist, and brings the average of seats nearer to the performers. In fact, to seat six hundred people in the parquet only fifteen rows are used, whereas in the conventional plan with the same floor area, twenty-one are required. In the old arrangement, the furthest auditor is sixty-two feet from the curtain line—in the Bush Temple only forty feet.

The decoration throughout the house is elaborate, being a free adaptation of the modern French type. Above the first balcony on the right the wall decoration is perforated, screening the beautiful three-manual pipe organ, which is operated from a movable console in the orchestra pit. The color scheme of the auditorium is deep crimson, running to a lighter tint in the ceiling, terminating in the large vaulted dome. The deep proscenium arch is of elliptical form and is crowned with a pediment resting on cartouches; the whole forming a highly artistic and striking framing for the stage picture. There are three stage boxes located on each side of the orchestra floor.

All of the relief work and details of the architectural projections are tinted in old ivory with high lights in gold leaf. The interior decorating, furnishings, carpets, etc., were done by Marshall Field & Co., and complete in their artistic scheme of color design a most harmonious and effective work that reflect great credit upon that firm.

The large auditorium has two balconies and seats over one thousand people. The stage is fifty feet deep, quite as wide, and is well equipped with all the scenery, traps, furnishing and equipment of the regular theater stage, with large orchestra pit and ample, well ventilated, sanitary dressing rooms. Credit is due for the completeness of this portion of the building to the manager, Charles R. Nixon, former dramatic editor of the *Inter Ocean.*

Recognizing that heating and ventilating are often responsible for failure of acoustics, it has been sought in the main auditorium of the Bush Temple of Music to use this system as an auxiliary to the main acoustic features. The "downward" system, as it is called, consists in forcing fresh air into the auditorium through apertures in ceiling and at side of proscenium arch. The exhaust is taken from registers in steppings of balcony and at rear and sides of main floor. The current, therefore, is downward and rearward and will tend to concentrate about the audience the sound waves radiating from the stage. The heating and ventilating apparatus was installed by the Buffalo Forge Company's Buffalo, N. Y., manufactory. The fan, which is practically eight feet in diameter, is placed in a heavy steel plate housing, which is arranged for a double discharge. The heater coils are six in number, each arranged for individual connection and controlled by separate valves. The coils are encased in a heavy sheet steel housing and are set a suitable distance above the floor, so that the fresh air from out doors can be passed either entirely over the coils or underneath the coils, as conditions in the theater may warrant. The fan is propelled by a Buffalo high-grade vertical engine, directly connected to the fan shaft; the apparatus being competent to force not less than 32,000 cubic feet of air per minute into the auditorium at all times, regardless of outside conditions.

The press representatives, after the first night's performance on April 17, were unanimous in their praise of the acoustic properties of the auditorium, one writer getting at the gist of the matter when he quoted Mme. Schuman Heink and Mr. Spiering, who had respectively sung and played, that the ease of execution was so notable as to render the task a genuine pleasure.

Durable and handsome hardware, supplied by Orr & Locket Company, also adds to the interior furnishings.

The mechanical features of the building are carefully planned for efficient service and convenience of the tenants. The plant is located in the basement at the west end, and consists of two large Scotch marine boilers and two direct-connected electric generating units, which are twelve by thirteen inch Ball (Erie) engines. A straight 110-volt service is installed for lighting and power purposes. Among the motors installed are two of the Northern type for driving two Yoeman's bilge pumps and a 16-horse-power motor, belted to a Kroeschell ice machine. operating on a carbonic anhydride system, with capacity of six tons daily.

OUR ILLUSTRATIONS.

Bush Temple of Music, Chicago; John E. O. Pridmore, architect. General exterior view, entrance detail and view of proscenium arch are shown.

The Chicago National Bank building, Chicago; Jenney & Mundie, architects. An exterior and numerous interior views and details are given.

Photogravure Plate: Roman Catholic Orphan Asylum, Fordham, New York; Schickel & Ditmars, architects, New York.

PHOTOGRAVURE PLATES.

Issued only with the Photogravure Edition.

Clydes Café, New York; John H. Duncan, architect.

Chatham Court Apartment building, New York; Neville & Bagge, architects.

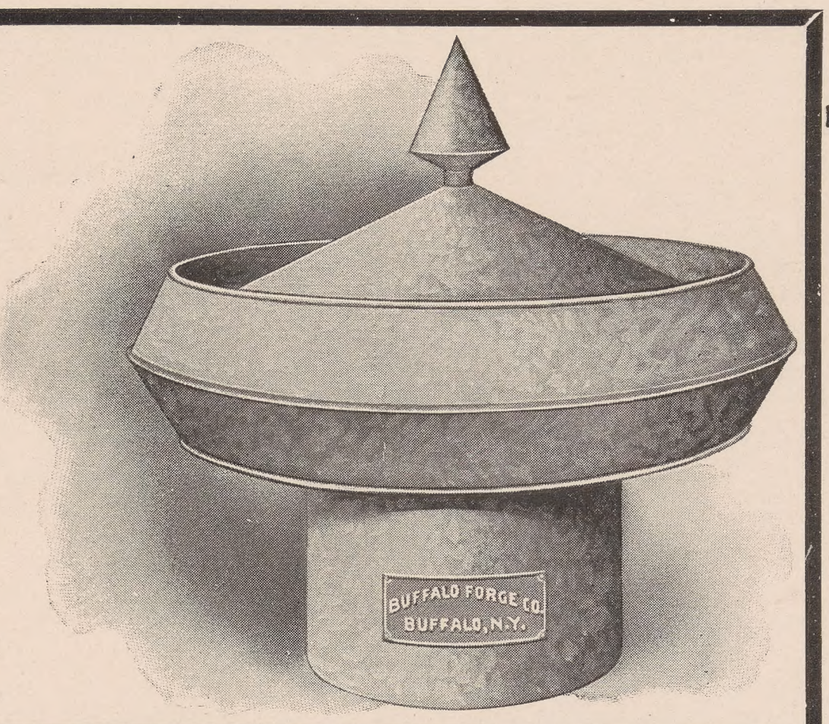
Earl Hall, Columbia University, New York; McKim, Mead & White, architects.

Residence of Allan Reed, Wayne, Pennsylvania; W. L. Price, architect, Philadelphia.

Leamy Home, Mt. Airy, Pennsylvania; Cope & Stewardson, architects, Philadelphia.

Dormitories, Barnard College, New York; Bruce Price and A. M. Darroch, architects.

Building for American Geographical Society, New York; Howells & Stokes, architects.



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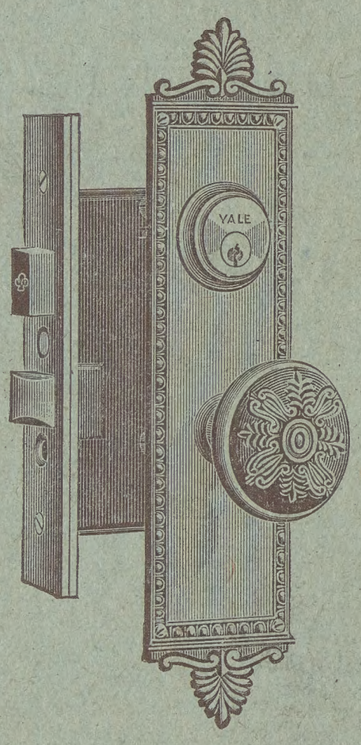

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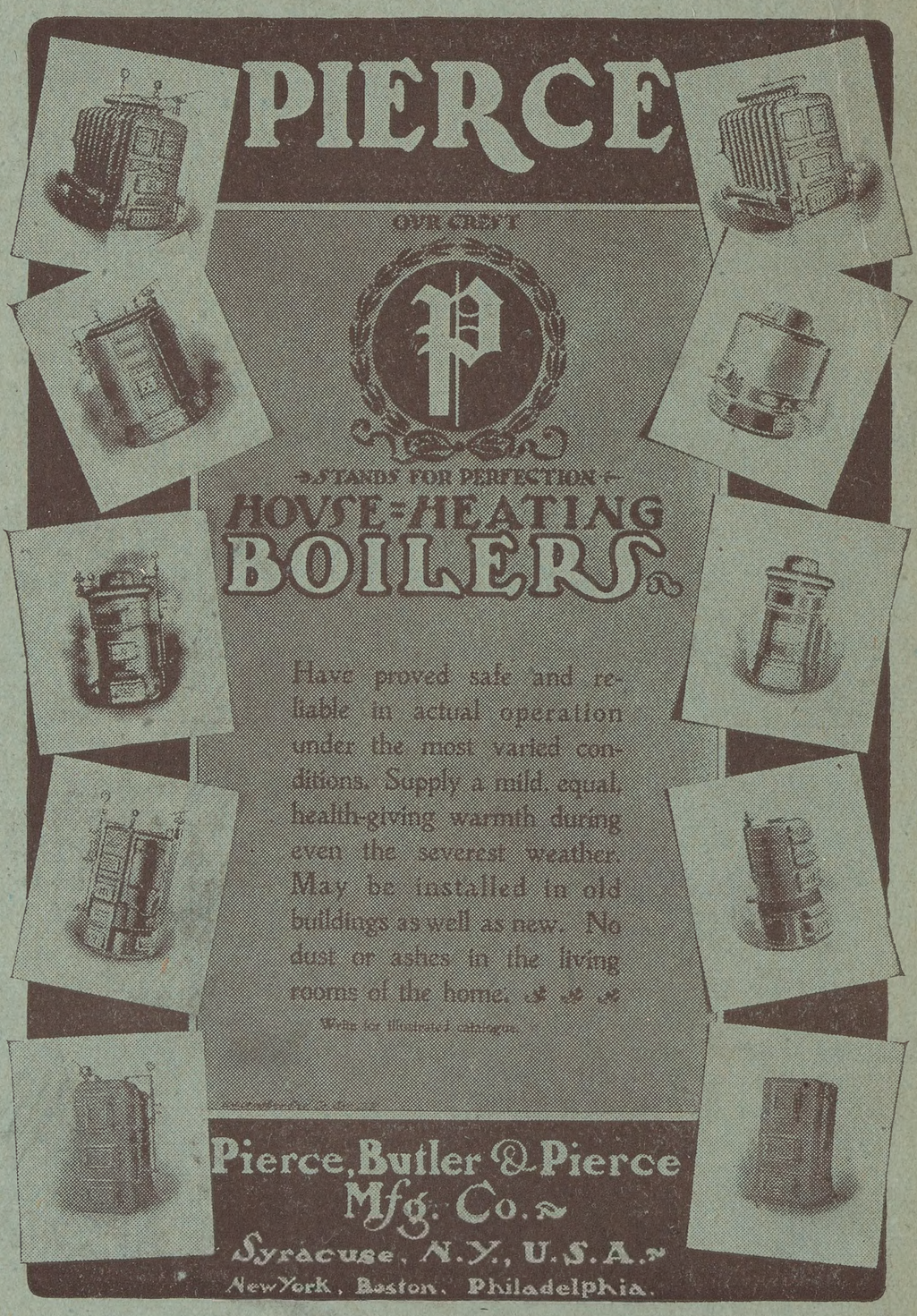

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